

STIC Search Report

EIC 1700

STIC Database Tracking Number 180300

**TO: John Chu
Location: REM 9D51
Art Unit : 1752
February 28, 2006**

Case Serial Number: 10/849197

**From: Usha Shrestha
Location: EIC 1700
REMSSEN 4B28
Phone: 571/272-3519
usha.shrestha@uspto.gov**

Search Notes



STIC Search Results Feedback Form

EIC17000

Questions about the scope or the results of the search? Contact *the EIC searcher* or contact:

Kathleen Fuller, EIC 1700 Team Leader
571/272-2505 REMSEN 4B28

Voluntary Results Feedback Form

- I am an examiner in Workgroup: Example: 1713
- Relevant prior art **found**, search results used as follows:

- ☐ 102 rejection
- ☐ 103 rejection
- ☐ Cited as being of interest.
- ☐ Helped examiner better understand the invention.
- ☐ Helped examiner better understand the state of the art in their technology.

Types of relevant prior art found:

- ☐ Foreign Patent(s)
- ☐ Non-Patent Literature
(journal articles, conference proceedings, new product announcements etc.)

➤ Relevant prior art **not found**:

- ☐ Results verified the lack of relevant prior art (helped determine patentability).
- ☐ Results were not useful in determining patentability or understanding the invention.

Comments:

180300
Banks, Kendra

From: JOHN CHU [john.chu@uspto.gov]
Sent: Wednesday, February 22, 2006 8:28 PM
To: STIC-EIC1700
Subject: Database Search Request, Serial Number: 10849197

Requester:
JOHN CHU (P/1752)
Art Unit:
GROUP ART UNIT 1752
Employee Number:
68314
Office Location:
REM 09D51
Phone Number:
(571)272-1329
Mailbox Number:

SCIENTIFIC REFERENCE BR
Sci & Tech Inf - Cnt

FEB 23 REC'D

Case serial number:
10849197

Class / Subclass(es):
430/270.1

Earliest Priority Filing Date:
5/21/03

Format preferred for results:
Paper

Search Topic Information:

Please search the compound of formula (1) alone and in a photoresist composition.

Thank you very much,
John

Special Instructions and Other Comments:

Pat. & T.M. Office



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
 United States Patent and Trademark Office
 Address: COMMISSIONER FOR PATENTS
 P.O. Box 1450
 Alexandria, Virginia 22313-1450
 www.uspto.gov



Bib Data Sheet

CONFIRMATION NO. 7290

SERIAL NUMBER 10/849,197	FILING DATE 05/20/2004 RULE	CLASS 430	GROUP ART UNIT 1752	ATTORNEY DOCKET NO. 0171-1098PUS1
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APPLICANTS

Takeru Watanabe, Niigata-ken, JAPAN;

Takeshi Kinsho, Niigata-ken, JAPAN;

Koji Hasegawa, Niigata-ken, JAPAN;

** CONTINUING DATA *****

None

** FOREIGN APPLICATIONS *****

JAPAN 2003-142853 05/21/2003

IF REQUIRED, FOREIGN FILING LICENSE GRANTED

** 09/24/2004

Foreign Priority claimed <input checked="" type="checkbox"/> yes <input type="checkbox"/> no	STATE OR COUNTRY JAPAN	SHEETS DRAWING 0	TOTAL CLAIMS 13	INDEPENDENT CLAIMS 8
35 USC 119 (a-d) conditions met <input checked="" type="checkbox"/> yes <input type="checkbox"/> no <input type="checkbox"/> Met after Verifying and Acknowledged				
Examiner's Signature <i>[Signature]</i> Initials <i>ja</i>				

ADDRESS

02292

BIRCH STEWART KOLASCH & BIRCH

PO BOX 747

FALLS CHURCH, VA

22040-0747

TITLE

Basic compound, resist composition and patterning process

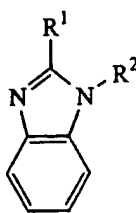
FILING FEE RECEIVED 1200	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:	<input type="checkbox"/> All Fees <input type="checkbox"/> 1.16 Fees (Filing) <input type="checkbox"/> 1.17 Fees (Processing Ext. of time) <input type="checkbox"/> 1.18 Fees (Issue)
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ABSTRACT

Resist compositions comprising basic compounds having
5 a benzimidazole skeleton and a polar functional group have an
excellent resolution and an excellent focus margin and are
useful in microfabrication using electron beams or deep-UV
light.

AMENDED SET OF CLAIMS

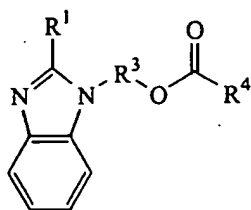
1. (Original) A resist composition comprising at least one basic compound having a benzimidazole skeleton and a polar functional group, represented by the general formula (1):



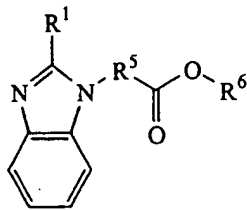
(1)

wherein R¹ is a hydrogen atom, a straight, branched or cyclic alkyl group of 1 to 10 carbon atoms, an aryl group of 6 to 10 carbon atoms, or an aralkyl group of 7 to 10 carbon atoms; and R² is a polar functional group-bearing straight, branched or cyclic alkyl group of 1 to 20 carbon atoms wherein said alkyl group contains as the polar functional group at least one group selected from among ester, acetal and cyano groups, and optionally at least one group selected from among hydroxyl, carbonyl, ether, sulfide and carbonate groups.

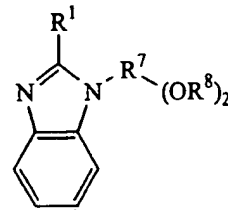
2. (Original) A resist composition comprising at least one basic compound having a benzimidazole skeleton and a polar functional group, represented by the general formulae (2) to (7):



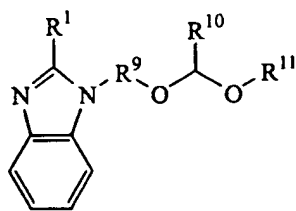
(2)



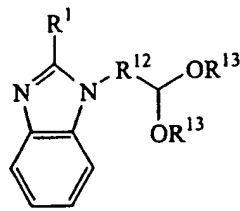
(3)



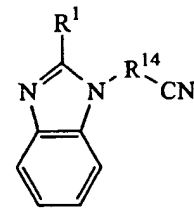
(4)



(5)



(6)



(7)

wherein R¹ is a hydrogen atom, a straight, branched or cyclic alkyl group of 1 to 10 carbon atoms, an aryl group of 6 to 10 carbon atoms, or an aralkyl group of 7 to 10 carbon atoms;

R³, R⁵, R⁹, R¹² and R¹⁴ are each independently a straight, branched or cyclic alkylene group of 1 to 10 carbon atoms;

R⁴ is a hydrogen atom or an alkyl group of 1 to 15 carbon atoms which may contain at least one group selected from among hydroxyl, carbonyl, ester, ether, sulfide, carbonate, cyano and acetal groups;

R^6 is an alkyl group of 1 to 15 carbon atoms which may contain at least one group selected from among hydroxyl, carbonyl, ester, ether, sulfide, carbonate, cyano and acetal groups;

R^7 is a trivalent, straight, branched or cyclic hydrocarbon group of 2 to 10 carbon atoms;

R^8 is each independently an acyl group of 1 to 10 carbon atoms which may contain at least one ester or ether group, or two R^8 may bond together to form a cyclic carbonate or cyclic acetal;

R^{10} is a hydrogen atom or a straight, branched or cyclic alkyl group of 1 to 10 carbon atoms;

R^{11} is a straight, branched or cyclic alkyl group of 1 to 10 carbon atoms which may contain at least one group selected from among ether, sulfide and acetal groups, or R^{10} and R^{11} may bond together to form a ring;

R^{13} is a straight, branched or cyclic alkyl group of 1 to 10 carbon atoms, or two R^{13} may bond together to form a ring.

3. (Original) A positive-working resist composition comprising:

- (A) the basic compound of claim 1;
- (B) an organic solvent;
- (C) a base resin having an acid labile group-protected acidic functional group which is alkali-insoluble or substantially alkali-insoluble, but becomes alkali-soluble when the acid labile group is eliminated; and
- (D) a photoacid generator.

4. (Original) The positive resist composition of claim 3 which further comprises (E) a dissolution inhibitor.

5. (Original) A negative-working resist composition comprising:

- (A) the basic compound of claim 1;
- (B) an organic solvent;
- (C') a base resin which is alkali-soluble, but becomes substantially alkali-insoluble when crosslinked with a crosslinking agent;
- (D) a photoacid generator; and
- (F) a crosslinking agent which induces crosslinkage under the action of an acid.

6. (Withdrawn) A patterning process comprising the steps of:

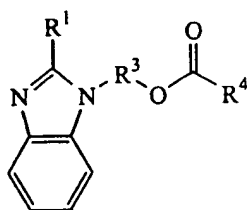
- (1) applying the positive resist composition of claim 3 onto a substrate;
- (2) heat treating the applied resist, then exposing the heat-treated resist through a photomask to high-energy radiation having a wavelength of at most 300 nm or an electron beam; and
- (3) heat treating the exposed resist, then developing the resist with a liquid developer.

7. (Withdrawn) A patterning process comprising the steps of:

- (1) applying the negative resist composition of claim 5 onto a substrate;

- (2) heat treating the applied resist, then exposing the heat-treated resist through a photomask to high-energy radiation having a wavelength of at most 300 nm or an electron beam; and
- (3) heat treating the exposed resist, then developing the resist with a liquid developer.

8. (Withdrawn) A basic compound represented by the general formula (2):



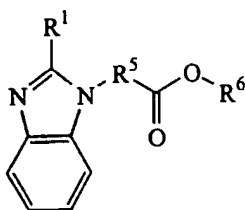
(2)

wherein R¹ is a hydrogen atom, a straight, branched or cyclic alkyl group of 1 to 10 carbon atoms, an aryl group of 6 to 10 carbon atoms, or an aralkyl group of 7 to 10 carbon atoms;

R³ is a straight, branched or cyclic alkylene group of 1 to 10 carbon atoms; and

R⁴ is a hydrogen atom or an alkyl group of 1 to 15 carbon atoms which may contain at least one group selected from among hydroxyl, carbonyl, ester, ether, sulfide, carbonate, cyano and acetal groups.

9. (Withdrawn) A basic compound represented by the general formula (3):



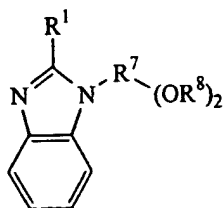
(3)

wherein R¹ is a hydrogen atom, a straight, branched or cyclic alkyl group of 1 to 10 carbon atoms, an aryl group of 6 to 10 carbon atoms, or an aralkyl group of 7 to 10 carbon atoms;

R⁵ is a straight, branched or cyclic alkylene group of 1 to 10 carbon atoms; and

R⁶ is an alkyl group of 1 to 15 carbon atoms which may contain at least one group selected from among hydroxyl, carbonyl, ester, ether, sulfide, carbonate, cyano and acetal groups.

10. (Withdrawn) A basic compound represented by the general formula (4):



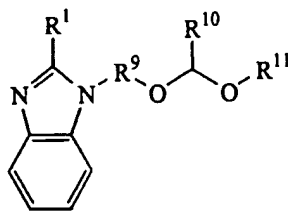
(4)

wherein R^1 is a hydrogen atom, a straight, branched or cyclic alkyl group of 1 to 10 carbon atoms, an aryl group of 6 to 10 carbon atoms, or an aralkyl group of 7 to 10 carbon atoms;

R^7 is a trivalent, straight, branched or cyclic hydrocarbon group of 2 to 10 carbon atoms;
and

R^8 is each independently an acyl group of 1 to 10 carbon atoms which may contain at least one ester or ether group, or two R^8 may bond together to form a cyclic carbonate or cyclic acetal.

11. (Withdrawn) A basic compound represented by the general formula (5):



(5)

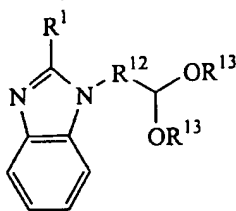
wherein R^1 is a hydrogen atom, a straight, branched or cyclic alkyl group of 1 to 10 carbon atoms, an aryl group of 6 to 10 carbon atoms, or an aralkyl group of 7 to 10 carbon atoms;

R^9 is a straight, branched or cyclic alkylene group of 1 to 10 carbon atoms;

R^{10} is a hydrogen atom or a straight, branched or cyclic alkyl group of 1 to 10 carbon atoms;

R^{11} is a straight, branched or cyclic alkyl group of 1 to 10 carbon atoms which may contain at least one group selected from among ether, sulfide and acetal groups, or R^{10} and R^{11} may bond together to form a ring.

12. (Withdrawn) A basic compound represented by the general formula (6):



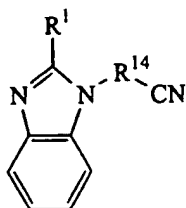
(6)

wherein R^1 is a hydrogen atom, a straight, branched or cyclic alkyl group of 1 to 10 carbon atoms, an aryl group of 6 to 10 carbon atoms, or an aralkyl group of 7 to 10 carbon atoms;

R^{12} is a straight, branched or cyclic alkylene group of 1 to 10 carbon atoms; and

R^{13} is a straight, branched or cyclic alkyl group of 1 to 10 carbon atoms, or two R^{13} may bond together to form a ring.

13. (Withdrawn) A basic compound represented by the general formula (7):

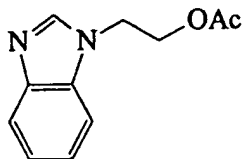


(7)

wherein R¹ is a hydrogen atom, a straight, branched or cyclic alkyl group of 1 to 10 carbon atoms, an aryl group of 6 to 10 carbon atoms, or an aralkyl group of 7 to 10 carbon atoms; and

R¹⁴ is a straight, branched or cyclic alkylene group of 1 to 10 carbon atoms.

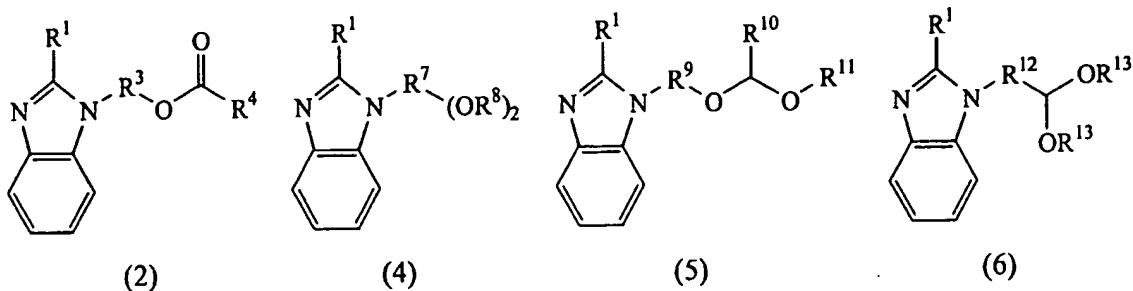
14. (Currently Amended) A compound of the formula:



Amine 2

15. (Withdrawn) A resist composition comprising the compound of claim 14.

16. (New) The resist composition of claim 1 wherein the basic compound is at least one selected from the group consisting of compounds represented by the following general formulae:



wherein R¹ is a hydrogen atom, methyl group or phenyl group;

R³, R⁹, and R¹² are each independently a straight, branched or cyclic alkylene group of 1 to 10 carbon atoms;

R⁴ is a hydrogen atom or an alkyl group of 1 to 15 carbon atoms which may contain at least one group selected from among hydroxyl, carbonyl, ester, ether, sulfide, carbonate, cyano and acetal groups;

R⁷ is a trivalent, straight, branched or cyclic hydrocarbon group of 2 to 10 carbon atoms;

R⁸ is each independently an acyl group of 1 to 10 carbon atoms which may contain at least one ester or ether group, or two R⁸ may bond together to form a cyclic carbonate or cyclic acetal;

R¹⁰ is a hydrogen atom or a straight, branched or cyclic alkyl group of 1 to 10 carbon atoms;

R^{11} is a straight, branched or cyclic alkyl group of 1 to 10 carbon atoms which may contain at least one group selected from among ether, sulfide and acetal groups, or R^{10} and R^{11} may bond together to form a ring; and

R^{13} is a straight, branched or cyclic alkyl group of 1 to 10 carbon atoms, or two R^{13} may bond together to form a ring.

=> fil reg

FILE 'REGISTRY' ENTERED AT 09:56:29 ON 28 FEB 2006

=> d his

FILE 'REGISTRY' ENTERED AT 09:42:17 ON 28 FEB 2006

ACT CHU186A/A

L1 STR
L2 442695 SEA FILE=REGISTRY SSS FUL L1

ACT CHU186/A

L3 STR
L4 STR
L5 (442695) SEA FILE=REGISTRY SSS FUL L3
L6 2290 SEA FILE=REGISTRY SUB=L5 SSS FUL L4

ACT CHU197/A

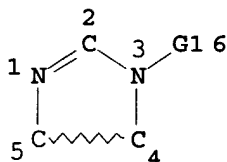
L7 STR
L8 STR
L9 (442695) SEA FILE=REGISTRY SSS FUL L7
L10 8549 SEA FILE=REGISTRY SUB=L9 SSS FUL L8

FILE 'HCAPLUS' ENTERED AT 09:46:55 ON 28 FEB 2006

L11 1 S US20040234884/PN
L12 1 S US20050008968/PN
L13 924 S L6
L14 1426 S L10
L15 35 S L13 AND ?RESIST?
L16 52 S L14 AND ?RESIST?
SEL L16 HIT RN 1-52
L17 21 S L16 AND PHOTOG?/SC,SX
L18 10 S L15 AND PHOTOG?/SC,SX
L19 25 S L15 NOT L18
L20 23 S L13 AND PHOTOG?/SC,SX
L21 23 S L18 OR L20
L22 1 S L21 AND L11
L23 48 S L14 AND PHOTOG?/SC,SX
L24 48 S L17 OR L23
L25 1 S L24 AND L12

=> d que 124

L7 STR



VAR G1=AK/CB

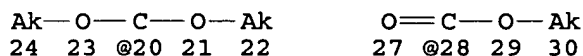
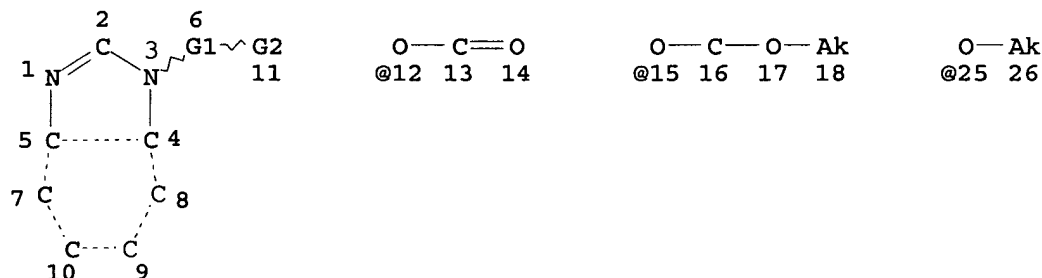
NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 6

STEREO ATTRIBUTES: NONE
L8 STR



VAR G1=AK/CB
VAR G2=CN/12/15/25/20/28
NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 29

STEREO ATTRIBUTES: NONE
L9 (442695)SEA FILE=REGISTRY SSS FUL L7
L10 8549 SEA FILE=REGISTRY SUB=L9 SSS FUL L8
L14 1426 SEA FILE=HCAPLUS ABB=ON PLU=ON L10
L16 52 SEA FILE=HCAPLUS ABB=ON PLU=ON L14 AND ?RESIST?
L17 21 SEA FILE=HCAPLUS ABB=ON PLU=ON L16 AND PHOTOG?/SC,SX

L23 48 SEA FILE=HCAPLUS ABB=ON PLU=ON L14 AND PHOTOG?/SC,SX

L24 48 SEA FILE=HCAPLUS ABB=ON PLU=ON L17 OR L23

=> fil hcap
FILE 'HCAPLUS' ENTERED AT 09:56:43 ON 28 FEB 2006

=> d l24 1-48 ibib abs hitstr hitind

L24 ANSWER 1 OF 48 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2005:1314040 HCAPLUS
DOCUMENT NUMBER: 144:47761
TITLE: Luminescent compounds having a functionalized linker arm used in the bioconjugation and labelling of biomolecules
INVENTOR(S): Caputo, Giuseppe; Gobetto, Roberto; Viscardi, Guido

PATENT ASSIGNEE(S): Italy
 SOURCE: PCT Int. Appl., 40 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005119254	A1	20051215	WO 2005-IB51782	

2005
0601

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
 RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: IT 2004-TO372 A

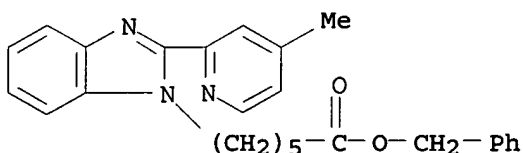
2004
0601

AB The present invention relates to luminescent compds. having a functionalized linker arm, their synthesis and use in bioconjugation and labeling of biomols., such as for example nucleosides, nucleotides, nucleic acids (DNA, RNA or PNA) and proteins, as well as their use in the execution of in vitro and in vivo analytic and diagnostic assays.

IT 871031-12-8P
 (luminescent compds. having a functionalized linker arm and electrochemiluminescent properties used in bioconjugation and labeling of biomols.)

RN 871031-12-8 HCAPLUS

CN 1H-Benzimidazole-1-hexanoic acid, 2-(4-methyl-2-pyridinyl)-, phenylmethyl ester (9CI) (CA INDEX NAME)



IC ICM G01N033-53

ICS C07F015-00

CC 9-16 (Biochemical Methods)

Section cross-reference(s): 29, 41

IT 15746-57-3P 64819-73-4P 64819-74-5P 78277-26-6P

871031-12-8P 871031-13-9P 871031-14-0P 871031-15-1P

871031-16-2P

(luminescent compds. having a functionalized linker arm and electrochemiluminescent properties used in bioconjugation and labeling of biomols.)

REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L24 ANSWER 2 OF 48 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2005:1155389 HCAPLUS

DOCUMENT NUMBER: 143:413518

TITLE: Nitrogen-containing organic compound, chemically amplified **resist** composition and patterning process

INVENTOR(S): Watanabe, Takeru; Hasegawa, Koji; Takemura, Katsuya; Noda, Kazumi

PATENT ASSIGNEE(S): Shin-Etsu Chemical Co., Ltd., Japan

SOURCE: U.S. Pat. Appl. Publ., 23 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

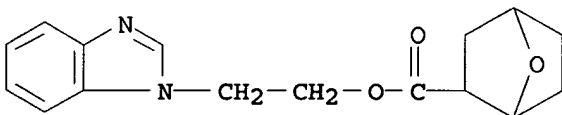
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
US 2005238993	A1	20051027	US 2005-110927	2005 0421
JP 2005306812	A2	20051104	JP 2004-128478	2004 0423
PRIORITY APPLN. INFO.:			JP 2004-128478	A 2004 0423

AB Chemical amplified **photoresist** compns. comprising nitrogen-containing organic compds. having a 7-oxanorbornane-2-carboxylic ester structure have an excellent resolution and provide a precise pattern profile and are useful in microfabrication using electron beams or deep-UV light.

IT **867257-56-5P**
(nitrogen-containing organic compound for chemical amplified **resist** composition)

RN 867257-56-5 HCAPLUS

CN 7-Oxabicyclo[2.2.1]heptane-2-carboxylic acid, 2-(1H-benzimidazol-1-yl)ethyl ester (9CI) (CA INDEX NAME)



IC ICM G03C001-492

INCL 430270100

CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and Other Reprographic Processes)

ST nitrogen org compd chem amplified **photoresist** compn

patterning process
 IT Photolithography
 Photoresists
 (nitrogen-containing organic compound for chemical amplified **resist**
 composition and patterning process)
 IT 867257-46-3P 867257-47-4P 867257-49-6P 867257-51-0P
 867257-52-1P 867257-54-3P
 (nitrogen-containing organic compound for chemical amplified **resist**
 composition)
 IT 111-95-5P 867257-45-2P 867257-48-5P 867257-50-9P
 867257-53-2P 867257-55-4P 867257-56-5P 867257-57-6P
 867257-59-8P
 (nitrogen-containing organic compound for chemical amplified **resist**
 composition)
 IT 102-71-6, Triethanolamine, reactions 102-79-4,
 Butyldiethanolamine 105-59-9, Methyldiethanolamine 109-85-3,
 2-Methoxyethylamine 120-07-0, Phenyldiethanolamine 122-20-3,
 Triisopropanolamine 122-96-3, 1,4-(Bis(2-hydroxyethyl)piperazine
 622-40-2, 2-Morpholinoethanol 1615-14-1, 1H-Imidazole-1-ethanol
 3040-44-6, 2-Piperidinoethanol 3445-11-2, 2-(2-Oxo-1-
 pyrrolidinyl)ethanol 6340-03-0, 1H-Benzimidazole-1-ethanol
 17209-72-2 21987-32-6 64897-90-1 867257-43-0
 (proparation of nitrogen-containing organic compound for chemical amplified
 resist composition)
 IT 79402-97-4P
 (proparation of nitrogen-containing organic compound for chemical amplified
 resist composition)
 IT 867257-44-1P
 (proparation of nitrogen-containing organic compound for chemical amplified
 resist composition)

L24 ANSWER 3 OF 48 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2005:429276 HCAPLUS

DOCUMENT NUMBER: 142:490393

TITLE: Nitrogen-containing organic compound,
resist composition and patterning
 process

INVENTOR(S): Watanabe, Takeru; Kinsho, Takeshi; Hasegawa,
 Koji; Takemura, Katsuya; Noda, Kazumi;
 Kobayashi, Katsuhiro

PATENT ASSIGNEE(S): Shin-Etsu Chemical Co., Ltd., Japan

SOURCE: U.S. Pat. Appl. Publ., 31 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

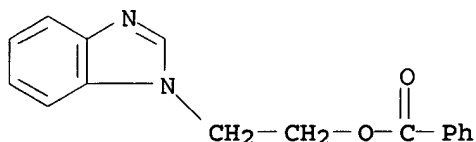
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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US 2005106500	A1	20050519	US 2004-984933	2004 1110
JP 2005165295	A2	20050623	JP 2004-324619	2004 1109
PRIORITY APPLN. INFO.:		JP 2003-384505	A	2003 1114

AB Chemical amplified **resist** compns. comprising nitrogen-containing organic compds. having an aromatic carboxylic acid ester structure have an excellent resolution and provide a precise pattern profile and are useful in microfabrication using electron beams or deep-UV light.

IT 22495-17-6P, 2-(1H-Benzimidazol-1-yl)ethyl benzoate
851706-05-3P
(nitrogen-containing organic compound, **resist** composition and patterning process)

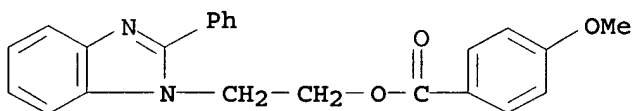
RN 22495-17-6 HCAPLUS

CN 1H-Benzimidazole-1-ethanol, benzoate (ester) (9CI) (CA INDEX NAME)



RN 851706-05-3 HCAPLUS

CN Benzoic acid, 4-methoxy-, 2-(2-phenyl-1H-benzimidazol-1-yl)ethyl ester (9CI) (CA INDEX NAME)



IC ICM G03C001-492

INCL 430270100

CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and Other Reprographic Processes)

ST nitrogen org **photoresist** compn process

IT Photolithography
Photoresists
(nitrogen-containing organic compound, **resist** composition and patterning process)

IT 51-17-2, Benzimidazole 98-88-4, Benzoyl chloride 100-07-2, 4-Methoxybenzoyl chloride 102-71-6, Triethanolamine, reactions 527-69-5, 2-Furoyl chloride 622-40-2, 2-Morpholinoethanol 879-18-5, 1-Naphthoyl chloride 1615-14-1, 2-(Imidazol-1-yl)ethanol 2243-83-6, 2-Naphthoyl chloride 2955-88-6, 2-(1-Pyrrolidinyl)ethanol 5452-06-2, 2-Chloroethyl 4-methoxybenzoate 6425-32-7, 3-Morpholinopropane-1,2-diol 14002-51-8, 4-Phenylbenzoyl chloride 17209-72-2 17213-57-9, 3,5-Dimethoxybenzoyl chloride 33941-15-0, 1-Aza-18-crown-6 79402-97-4 98998-43-7
(nitrogen-containing organic compound, **resist** composition and patterning process)

IT 22495-17-6P, 2-(1H-Benzimidazol-1-yl)ethyl benzoate
47750-79-8P 79690-87-2P 192817-77-9P, Ethyl 2-(1-pyrrolidinyl)benzoate 497057-34-8P 851705-95-8P
851705-97-0P 851705-99-2P 851706-00-8P 851706-01-9P
851706-02-0P 851706-03-1P 851706-04-2P 851706-05-3P
851706-06-4P 851706-07-5P

(nitrogen-containing organic compound, **resist** composition and patterning process)

L24 ANSWER 4 OF 48 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2005:394655 HCAPLUS

DOCUMENT NUMBER: 142:454315

TITLE: Nitrogen-containing organic compound,
resist composition and patterning
process

INVENTOR(S): Watanabe, Takeru; Kinsho, Takeshi; Takemura,
Katsuya; Seki, Akihiro

PATENT ASSIGNEE(S): Shin-Etsu Chemical Co., Ltd., Japan

SOURCE: U.S. Pat. Appl. Publ., 23 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO. -----	KIND ----	DATE -----	APPLICATION NO. -----	DATE
US 2005095533	A1	20050505	US 2004-974759	2004 1028
JP 2005132749	A2	20050526	JP 2003-368421	2003 1029
PRIORITY APPLN. INFO.:			JP 2003-368421	A 2003 1029

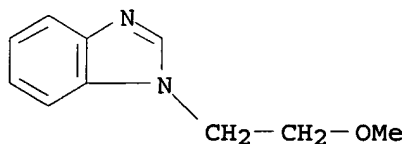
OTHER SOURCE(S): MARPAT 142:454315

AB **Resist** comps. comprises nitrogen-containing organic compds.
having a benzimidazole structure and a specific ether chain moiety
have an excellent resolution, form precisely configured patterns with
minimized roughness of sidewalls and are useful in
microfabrication using electron beams or deep-UV light.

IT 118468-98-7P 639477-67-1P 671201-35-7P
(nitrogen-containing organic compound for **resist** composition and
patterning process)

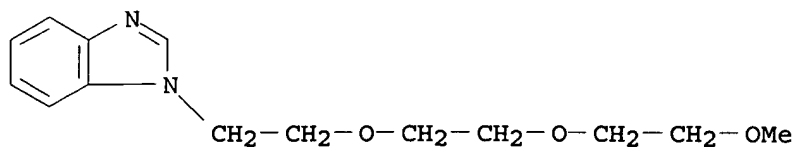
RN 118468-98-7 HCAPLUS

CN 1H-Benzimidazole, 1-(2-methoxyethyl)- (9CI) (CA INDEX NAME)

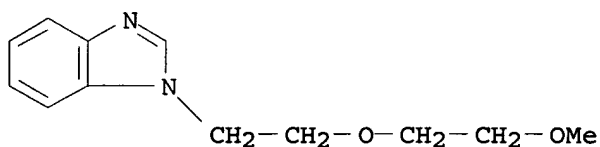


RN 639477-67-1 HCAPLUS

CN 1H-Benzimidazole, 1-[2-[2-(2-methoxyethoxy)ethoxy]ethyl]- (9CI)
(CA INDEX NAME)

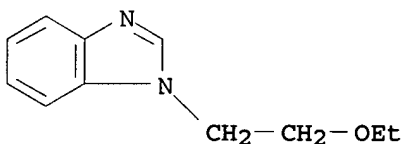


RN 671201-35-7 HCAPLUS
 CN 1H-Benzimidazole, 1-[2-(2-methoxyethoxy)ethyl]- (9CI) (CA INDEX NAME)

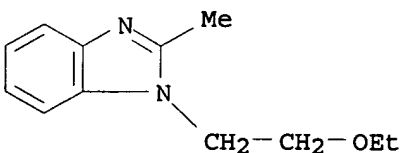


IT 143656-17-1P 160665-97-4P 444995-61-3P
 488086-49-3P 488719-18-2P 488795-64-8P
 497241-32-4P 637324-61-9P 637324-85-7P
 851211-18-2P 851211-19-3P 851211-20-6P
 851211-22-8P 851211-23-9P 851211-24-0P
 851211-25-1P 851211-26-2P 851211-27-3P
 851211-28-4P
 (nitrogen-containing organic compound for resist composition and patterning process)

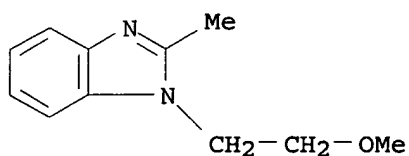
RN 143656-17-1 HCAPLUS
 CN 1H-Benzimidazole, 1-(2-ethoxyethyl)- (9CI) (CA INDEX NAME)



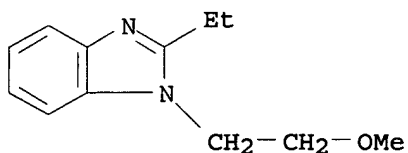
RN 160665-97-4 HCAPLUS
 CN 1H-Benzimidazole, 1-(2-ethoxyethyl)-2-methyl- (9CI) (CA INDEX NAME)



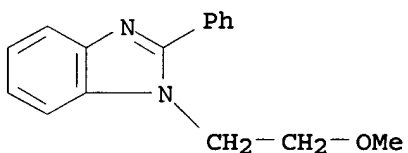
RN 444995-61-3 HCAPLUS
 CN 1H-Benzimidazole, 1-(2-methoxyethyl)-2-methyl- (9CI) (CA INDEX NAME)



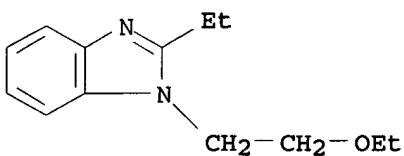
RN 488086-49-3 HCAPLUS
 CN 1H-Benzimidazole, 2-ethyl-1-(2-methoxyethyl)- (9CI) (CA INDEX NAME)



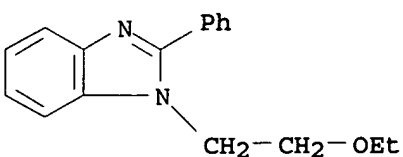
RN 488719-18-2 HCAPLUS
 CN 1H-Benzimidazole, 1-(2-methoxyethyl)-2-phenyl- (9CI) (CA INDEX NAME)



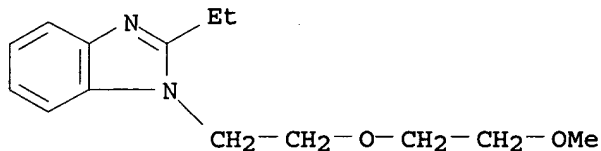
RN 488795-64-8 HCAPLUS
 CN 1H-Benzimidazole, 1-(2-ethoxyethyl)-2-ethyl- (9CI) (CA INDEX NAME)



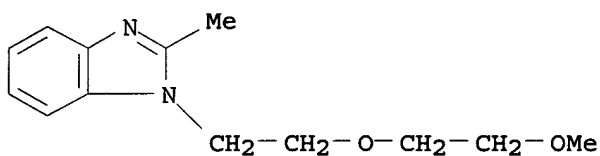
RN 497241-32-4 HCAPLUS
 CN 1H-Benzimidazole, 1-(2-ethoxyethyl)-2-phenyl- (9CI) (CA INDEX NAME)



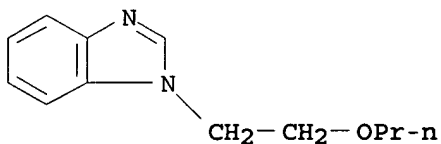
RN 637324-61-9 HCAPLUS
CN 1H-Benzimidazole, 2-ethyl-1-[2-(2-methoxyethoxy)ethyl]- (9CI) (CA
INDEX NAME)



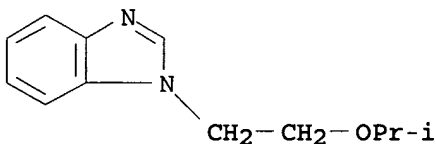
RN 637324-85-7 HCAPLUS
CN 1H-Benzimidazole, 1-[2-(2-methoxyethoxy)ethyl]-2-methyl- (9CI)
(CA INDEX NAME)



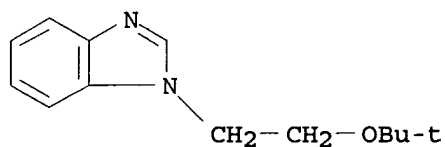
RN 851211-18-2 HCAPLUS
CN 1H-Benzimidazole, 1-(2-propoxyethyl)- (9CI) (CA INDEX NAME)



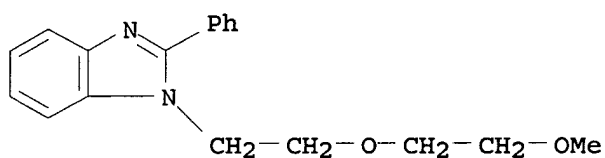
RN 851211-19-3 HCAPLUS
CN 1H-Benzimidazole, 1-[2-(1-methylethoxy)ethyl]- (9CI) (CA INDEX
NAME)



RN 851211-20-6 HCAPLUS
CN 1H-Benzimidazole, 1-[2-(1,1-dimethylethoxy)ethyl]- (9CI) (CA
INDEX NAME)

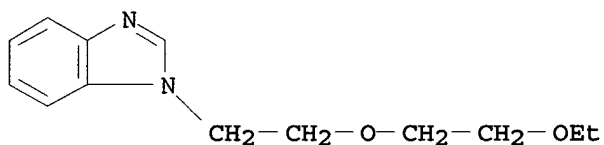


RN 851211-22-8 HCAPLUS

CN 1H-Benzimidazole, 1-[2-(2-methoxyethoxy)ethyl]-2-phenyl- (9CI)
(CA INDEX NAME)

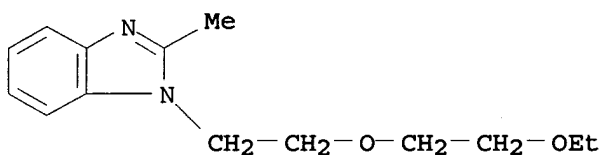
RN 851211-23-9 HCAPLUS

CN 1H-Benzimidazole, 1-[2-(2-ethoxyethoxy)ethyl]- (9CI) (CA INDEX NAME)



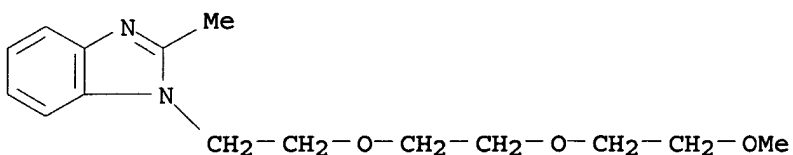
RN 851211-24-0 HCAPLUS

CN 1H-Benzimidazole, 1-[2-(2-ethoxyethoxy)ethyl]-2-methyl- (9CI) (CA INDEX NAME)



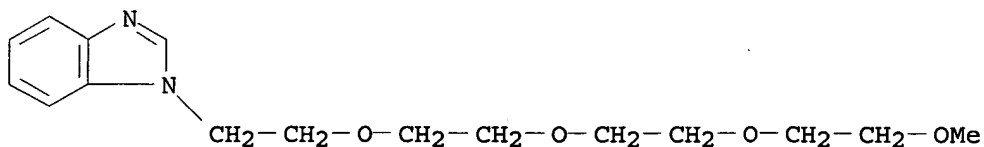
RN 851211-25-1 HCAPLUS

CN 1H-Benzimidazole, 1-[2-[2-(2-methoxyethoxy)ethoxy]ethyl]-2-methyl- (9CI) (CA INDEX NAME)



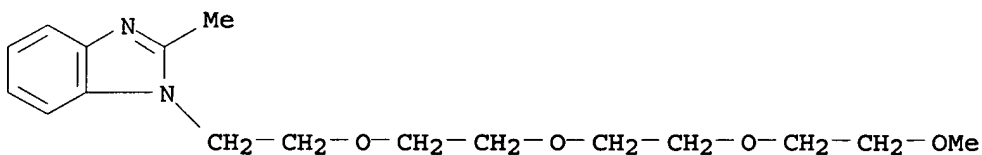
RN 851211-26-2 HCAPLUS

CN 1H-Benzimidazole, 1-(3,6,9,12-tetraoxatridec-1-yl)- (9CI) (CA INDEX NAME)



RN 851211-27-3 HCAPLUS

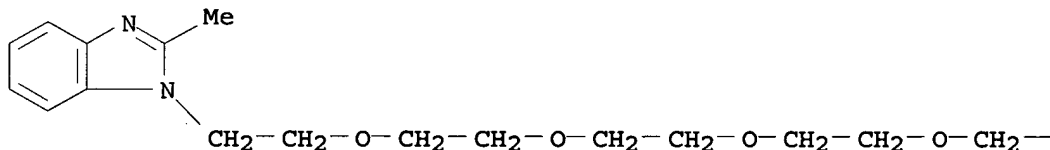
CN 1H-Benzimidazole, 2-methyl-1-(3,6,9,12-tetraoxatridec-1-yl)- (9CI)
(CA INDEX NAME)



RN 851211-28-4 HCAPLUS

CN 1H-Benzimidazole, 2-methyl-1-(3,6,9,12,15-pentaoxa-hexadec-1-yl)-
(9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B

—CH₂—OMe

IC ICM G03C001-73

INCL 430270100

CC 74-5 (Radiation Chemistry, Photochemistry, and
Photographic and Other Reprographic Processes)
Section cross-reference(s): 38

ST nitrogen org compd **photoresist** compn patterning process

IT Photolithography

Photoresists

(nitrogen-containing organic compound for **resist** composition and
patterning process)

IT 118468-98-7P 639477-67-1P 671201-35-7P

(nitrogen-containing organic compound for **resist** composition and

patterning process)

IT 143656-17-1P 160665-97-4P 444995-61-3P
 488086-49-3P 488719-18-2P 488795-64-8P
 497241-32-4P 637324-61-9P 637324-85-7P
 851211-18-2P 851211-19-3P 851211-20-6P
 851211-21-7P 851211-22-8P 851211-23-9P
 851211-24-0P 851211-25-1P 851211-26-2P
 851211-27-3P 851211-28-4P 851211-29-5P
 (nitrogen-containing organic compound for **resist** composition and
 patterning process)

IT 51-17-2, Benzimidazole 615-15-6, 2-MethylBenzimidazole
 627-42-9, 2-Chloroethyl methyl ether 628-34-2, 2-Chloroethyl
 ethyl ether 716-79-0, 2-PhenylBenzimidazole 1848-84-6,
 2-EthylBenzimidazole 13830-12-1, 2-Chloroethyl isopropyl ether
 17229-11-7 41771-35-1, 2-Chloroethyl 2-ethoxyethyl ether
 42149-74-6, 2-Chloroethyl propyl ether 52808-36-3, 2-Chloroethyl
 2-methoxyethyl ether 52995-76-3 53067-04-2 57722-04-0
 120259-67-8
 (preparation of nitrogen-containing organic compound for **resist**
 composition and patterning process)

L24 ANSWER 5 OF 48 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2005:315916 HCAPLUS

DOCUMENT NUMBER: 142:382185

TITLE: Chemically amplified positive-working
resists sensitive for far-IR, x ray,
 and electron beam

INVENTOR(S): Nagai, Tomoki; Miyaji, Shoji; Hara, Hiromichi;
 Murata, Makoto

PATENT ASSIGNEE(S): JSR Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 22 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

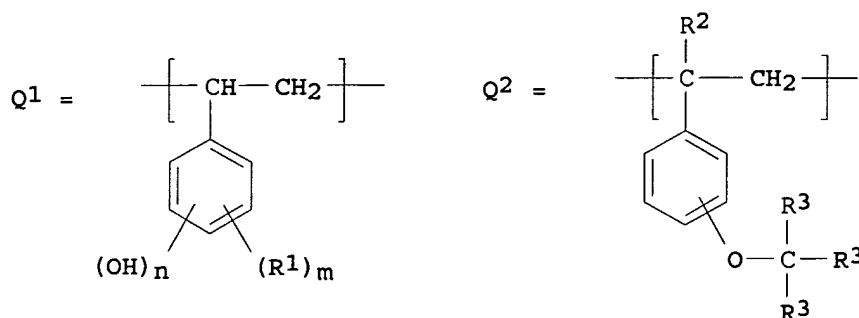
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005099076	A2	20050414	JP 2003-329356	2003 0922

PRIORITY APPLN. INFO.: JP 2003-329356

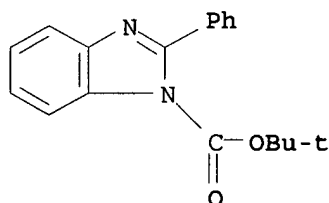
2003
0922

OTHER SOURCE(S): MARPAT 142:382185

GI



- AB The **resists** contain (A) alkali-insol. polymers having repeating unit of Q1 (R1 = monovalent organic group, n = 1-3, m = 0-2) and Q2 [R2 = H, Me; R3 = C1-4 hydrocarbyl] becoming alkali soluble upon dissociation of C(R3)3 groups, and (B) N-sulfonyloxyimides and di-Ph iodonium salts as photoacid generators. Preferably, the **resists** further contain acid-diffusion inhibitors. The **resists** show high sensitivity for far IR, x ray, and electron beams.
- IT 193810-83-2, N-tert-Butoxycarbonyl-2-phenyl benzimidazole (acid-diffusion inhibitor; in chemical amplified pos.-working **resist** sensitive for far-IR, x ray, and electron beam)
- RN 193810-83-2 HCAPLUS
- CN 1H-Benzimidazole-1-carboxylic acid, 2-phenyl-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)



- IC ICM G03F007-039
ICS G03F007-004; H01L021-027
- CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and Other Reprographic Processes)
Section cross-reference(s): 38
- ST pos **resist** photoacid generator sulfonyloxyimide diphenyliodonium; far IR pos **resist** photoacid generator multiple; x ray pos **resist** photoacid generator multiple; electron beam pos **resist** photoacid generator multiple
- IT Positive **photoresists**
(UV, chemical amplified; chemical amplified pos.-working **resist** sensitive for far-IR, x ray, and electron beam)
- IT Electron beam **resists**
X-ray **resists**
(pos.-working, chemical amplified; chemical amplified pos.-working **resist** sensitive for far-IR, x ray, and electron beam)
- IT 716-79-0, 2-Phenylbenzimidazole 193810-83-2, N-tert-Butoxycarbonyl-2-phenyl benzimidazole (acid-diffusion inhibitor; in chemical amplified pos.-working **resist** sensitive for far-IR, x ray, and electron beam)

IT 288622-96-8P, p-tert-Butoxystyrene-p-hydroxystyrene-styrene copolymer 406198-55-8DP, p-Acetoxystyrene-p-tert-butoxystyrene-N,N-dimethylacrylamide-styrene copolymer, hydrolyzed 406198-64-9DP, p-Acetoxystyrene-p-tert-butoxystyrene-styrene copolymer, hydrolyzed 849671-40-5P, p-tert-Butoxystyrene-N,N-dimethylacrylamide-p-hydroxystyrene-styrene copolymer (in chemical amplified pos.-working **resist** sensitive for far-IR, x ray, and electron beam)

IT 66003-76-7, Diphenyliodonium trifluoromethanesulfonate 133710-62-0 194999-82-1 214534-44-8, Diphenyliodonium 10-camphorsulfonate 307531-76-6 (photoacid generator; in chemical amplified pos.-working **resist** sensitive for far-IR, x ray, and electron beam)

L24 ANSWER 6 OF 48 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2004:1125476 HCAPLUS

DOCUMENT NUMBER: 142:65319

TITLE: Acid generators and positively or negatively working radiation-sensitive resin compositions containing the same

INVENTOR(S): Ibata, Satoshi; Nagai, Tomoki; O, Isamu

PATENT ASSIGNEE(S): JSR Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 63 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

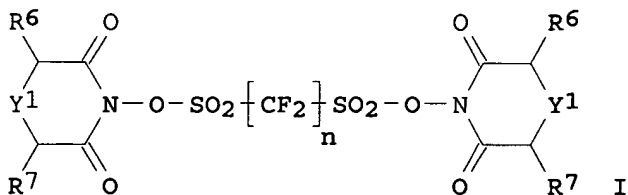
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2004359590	A2	20041224	JP 2003-158808	2003 0604

PRIORITY APPLN. INFO.: JP 2003-158808

2003
0604

OTHER SOURCE(S): MARPAT 142:65319

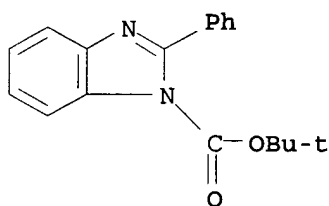
GI



AB The acid generators comprise compds. having the structure of $\text{SO}_2(\text{CF}_2)_n\text{SO}_2$ ($n = 2-10$ integer), preferably, disulfonic acid onium salts $\text{SO}_3-(\text{CF}_2)_n\text{SO}_3-2\text{M}^+$ ($n = 2-10$ integer; $\text{M}^+ =$ monovalent onium cation). Preferably, M^+ comprises sulfonium cations $\text{R}_1\text{R}_2\text{R}_3\text{S}^+$ or iodonium cations $\text{R}_4\text{R}_5\text{I}^+$ ($\text{R}_1-\text{R}_5 = \text{C}_1-10$ alkyl, C_6-18 aryl; ≥ 1 of R_1-R_3 may be bonded together and form ring with S; R_4 and R_5 may be bonded together and form ring with I). Acid

generators comprising N,N'-di(sulfonyloximides) I (n = 2-10 integer; R6, R7 = H, monovalent organic group; R6 and R7 bonding to the same imide ring may be bonded together and form ring; Y1 = single bond, double bond, divalent organic group) are also claimed. The pos. working radiation-sensitive resin compns. contain (A) radiation-sensitive acid generators involving any of the above-mentioned acid generators and (B) resins which are insol. or slightly soluble in alkalis, bear acid-dissociable groups, and become soluble in alkalis upon dissociation of the acid-dissociable groups. The neg.-working radiation-sensitive resin compns. contain (A) radiation-sensitive acid generators involving any of the above-mentioned acid generators, (C) alkali-soluble resins, and (D) compds. capable of crosslinking the alkali-soluble resins in the presence of acids. The acids generated from the acid generators have sufficiently high acidity and b.p., the diffusion length of the acids in **resist** films is appropriately short, mask pattern dependency is small, and focus depth is excellent.

- IT 193810-83-2, N-tert-Butoxycarbonyl-2-phenylbenzimidazole
(diffusion controlling agent; disulfonic acid generators for pos. or neg. working radiation-sensitive **resist** compns.)
- RN 193810-83-2 HCAPLUS
- CN 1H-Benzimidazole-1-carboxylic acid, 2-phenyl-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)



- IC ICM C07C309-06
- ICS C07C381-12; C07D207-46; C07D209-52; C07D221-14; C07D491-18; G03F007-004; G03F007-038; G03F007-039; H01L021-027
- CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and Other Reprographic Processes)
- ST disulfonic acid generator deep UV **resist**; pos **photoresist** disulfonic acid generator; neg **photoresist** disulfonic acid generator
- IT Negative **photoresists**
Positive **photoresists**
(deep UV; disulfonic acid generators for pos. or neg. working radiation-sensitive **resist** compns.)
- IT Sulfonic acids, preparation
(di-; disulfonic acid generators for pos. or neg. working radiation-sensitive **resist** compns.)
- IT Onium compounds
(disulfonic acid; disulfonic acid generators for pos. or neg. working radiation-sensitive **resist** compns.)
- IT **Resists**
(neg.-working radiation-sensitive; disulfonic acid generators for pos. or neg. working radiation-sensitive **resist** compns.)
- IT **Resists**
(pos.-working radiation-sensitive; disulfonic acid generators for pos. or neg. working radiation-sensitive **resist** compns.)

compns.)

IT 17464-88-9
(crosslinking agent; disulfonic acid generators for pos. or neg. working radiation-sensitive **resist** compns.)

IT 102-71-6, Triethanolamine, uses 716-79-0, 2-Phenylbenzimidazole 1116-76-3, Tri-n-octylamine 1739-84-0, 1,2-Dimethylimidazole 193810-83-2, N-tert-Butoxycarbonyl-2-phenylbenzimidazole (diffusion controlling agent; disulfonic acid generators for pos. or neg. working radiation-sensitive **resist** compns.)

IT 133710-62-0 138529-81-4, Bis(cyclohexylsulfonyl)diazomethane 144317-44-2, Triphenylsulfonium nonafluoro-n-butanesulfonate 209482-18-8 (disulfonic acid generators for pos. or neg. working radiation-sensitive **resist** compns.)

IT 809274-47-3P 809274-48-4P 809274-49-5P 809274-50-8P (disulfonic acid generators for pos. or neg. working radiation-sensitive **resist** compns.)

IT 109-92-2DP, Ethyl vinyl ether, reaction products with 4-tert-butoxystyrene-4-hydroxystyrene copolymer 95418-60-3DP, 4-tert-Butoxystyrene homopolymer, partially hydrolyzed 123589-22-0DP, 4-tert-Butoxystyrene-4-hydroxystyrene copolymer, reaction products with Et vinyl ether 123589-22-0P, 4-tert-Butoxystyrene-4-hydroxystyrene copolymer 200808-68-0P, tert-Butyl acrylate-4-hydroxystyrene-styrene copolymer 221549-67-3DP, 4-Acetoxystyrene-tert-butyl acrylate-styrene copolymer, hydrolyzed 288622-96-8P, 4-tert-Butoxystyrene-4-hydroxystyrene-styrene copolymer 340964-24-1P 340964-38-7P 406198-64-9DP, 4-Acetoxystyrene-4-tert-butoxystyrene-styrene copolymer, hydrolyzed 428516-13-6P 479628-09-6P 670248-60-9P 690258-42-5P 726175-42-4P (disulfonic acid generators for pos. or neg. working radiation-sensitive **resist** compns.)

IT 24979-74-6, 4-Hydroxystyrene-styrene copolymer (disulfonic acid generators for pos. or neg. working radiation-sensitive **resist** compns.)

L24 ANSWER 7 OF 48 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2004:1058692 HCAPLUS

DOCUMENT NUMBER: 142:45905

TITLE: Basic compounds, **resist** materials, and pattern formation

INVENTOR(S): Watanabe, Takeshi; Kaneo, Takeshi; Hasegawa, Koji

PATENT ASSIGNEE(S): Shin-Etsu Chemical Industry Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 57 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
JP 2004347738	A2	20041209	JP 2003-142853	2003 0521
US 2005008968	A1	20050113	US 2004-849197	2004

PRIORITY APPLN. INFO.:

JP 2003-142853

A 0520

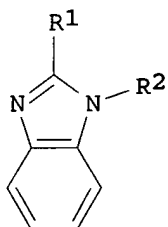
2003

0521

OTHER SOURCE(S):

MARPAT 142:45905

GI



I

AB The **resist** materials contain ≥ 1 benzimidazole-based basic compds. having polar functional groups I (R1 = H, C1-10 normal, branched, or cyclic alkyl, C6-10 aryl, C7-10 aralkyl; R2 = C1-20 normal, branched, or cyclic alkyl having ≥ 1 polar functional groups selected from ester, acetal, and cyano; R2 may contain OH, carbonyl, ether, sulfide, and/or carbonate). Patterns are formed by (1) applying the materials on substrates, (2) heating, (3) exposing to ≤ 300 -nm high energy beam or electron beam via photomasks, (4) heating, and (5) developing. Six kinds of Markush structures of benzimidazole-based basic compds. are also claimed. The **resist** materials show high resolution and large focus margin.

IT 46400-55-9P 58553-97-2P, 1H-Benzimidazole-1-

butanenitrile 102025-46-7P 502651-76-5P

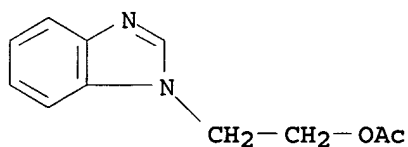
804550-88-7P 804550-89-8P 804550-90-1P

804550-91-2P 804550-93-4P

(benzimidazole-based basic compds. for **resists** with high resolution and large focus margin)

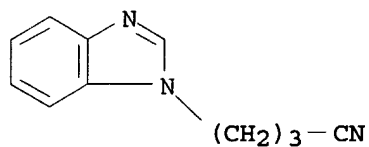
RN 46400-55-9 HCAPLUS

CN 1H-Benzimidazole-1-ethanol, acetate (ester) (9CI) (CA INDEX NAME)



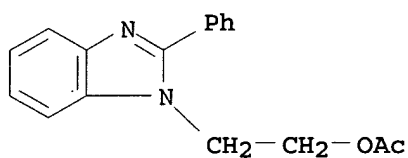
RN 58553-97-2 HCAPLUS

CN 1H-Benzimidazole-1-butanenitrile (9CI) (CA INDEX NAME)



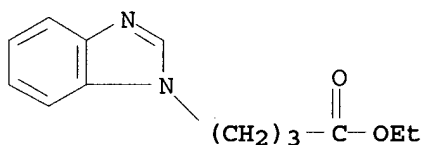
RN 102025-46-7 HCAPLUS

CN 1H-Benzimidazole-1-ethanol, 2-phenyl-, acetate (ester) (9CI) (CA INDEX NAME)



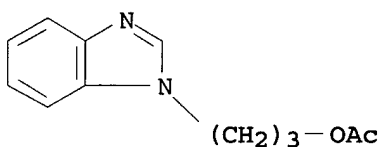
RN 502651-76-5 HCAPLUS

CN 1H-Benzimidazole-1-butanoic acid, ethyl ester (9CI) (CA INDEX NAME)



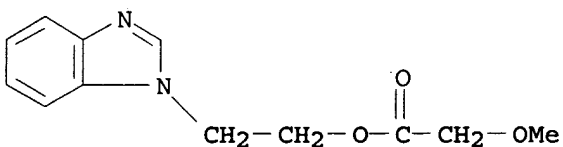
RN 804550-88-7 HCAPLUS

CN 1H-Benzimidazole-1-propanol, acetate (ester) (9CI) (CA INDEX NAME)



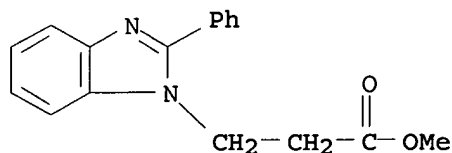
RN 804550-89-8 HCAPLUS

CN Acetic acid, methoxy-, 2-(1H-benzimidazol-1-yl)ethyl ester (9CI) (CA INDEX NAME)



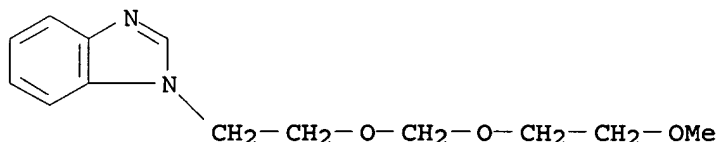
RN 804550-90-1 HCAPLUS

CN 1H-Benzimidazole-1-propanoic acid, 2-phenyl-, methyl ester (9CI) (CA INDEX NAME)



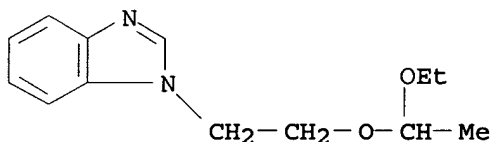
RN 804550-91-2 HCAPLUS

CN 1H-Benzimidazole, 1-[2-[(2-methoxyethoxy)methoxy]ethyl]- (9CI)
(CA INDEX NAME)



RN 804550-93-4 HCAPLUS

CN 1H-Benzimidazole, 1-[2-(1-ethoxyethoxy)ethyl]- (9CI) (CA INDEX NAME)



IC ICM G03F007-004

ICS C07D235-12; C07D235-16; C07D405-06; C09K003-00; G03F007-038;
G03F007-039; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and
Photographic and Other Reprographic Processes)
Section cross-reference(s): 28

ST benzimidazole basic compd **resist** pattern formation;
focus margin benzimidazole basic compd **resist**

IT Negative **photoresists**
Positive **photoresists**

(benzimidazole-based basic compds. for **resists** with
high resolution and large focus margin)

IT 6293-66-9, Diphenyliodonium tosylate 138529-81-4,
Bis(cyclohexanesulfonyl)diazomethane 144317-44-2,
Triphenylsulfonium perfluorobutanesulfonate 161453-44-7
266308-64-9

(acid generators; benzimidazole-based basic compds. for
resists with high resolution and large focus margin)

IT 46400-55-9P 58553-97-2P, 1H-Benzimidazole-1-
butanenitrile 102025-46-7P 172678-64-7P
502651-76-5P 804550-88-7P 804550-89-8P
804550-90-1P 804550-91-2P 804550-93-4P
804550-95-6P

(benzimidazole-based basic compds. for **resists** with
high resolution and large focus margin)

IT 24979-74-6, 4-Hydroxystyrene-styrene copolymer 123589-22-0,

4-tert-Butoxystyrene-4-hydroxystyrene copolymer 129674-22-2
 158593-28-3 221900-55-6 279243-86-6 326925-68-2
 336620-37-2 443796-30-3 645393-08-4 651043-12-8
 798570-42-0 804550-98-9 804551-00-6

(benzimidazole-based basic compds. for resists with
 high resolution and large focus margin)

IT 6340-03-0P, 1H-Benzimidazole-1-ethanol
 (intermediates in base preparation; benzimidazole-based basic
 compds. for resists with high resolution and large focus
 margin)

IT 51-17-2, Benzimidazole 75-21-8, Ethylene oxide, reactions
 96-33-3, Methyl acrylate 108-24-7, Acetic anhydride 592-33-6,
 3-Bromopropyl acetate 716-79-0, 2-Phenylbenzimidazole
 2969-81-5, Ethyl 4-bromobutanoate 5332-06-9,
 4-Bromobutyronitrile 6290-49-9, Methyl methoxyacetate
 18742-02-4, 2-(2-Bromoethyl)-1,3-dioxolane 36236-76-7,
 4-Bromomethyl-2,2-dimethyl-1,3-dioxolane 78487-70-4
 804550-96-7

(reactants in base preparation; benzimidazole-based basic compds.
 for resists with high resolution and large focus margin)

L24 ANSWER 8 OF 48 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2004:392711 HCAPLUS

DOCUMENT NUMBER: 140:414937

TITLE: Radiation-sensitive resin composition
 containing specific resin

INVENTOR(S): Nishimura, Yukio; Ishii, Hiroyuki; Nishimura,
 Isao; Kobayashi, Eiichi

PATENT ASSIGNEE(S): JSR Corporation, Japan

SOURCE: PCT Int. Appl., 126 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004040376	A1	20040513	WO 2003-JP13560	2003 1023
WO 2004040376	B1	20040708		
W:				
AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA,				
CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI,				
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KR,				
KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,				
MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD,				
SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US,				
UZ, VC, VN, YU, ZA, ZM, ZW				
RW:				
GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM,				
AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ,				
DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL,				
PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN,				
GQ, GW, ML, MR, NE, SN, TD, TG				
JP 2005043852	A2	20050217	JP 2003-359842	2003 1020
AU 2003280571	A1	20040525	AU 2003-280571	2003

EP 1557718

A1

20050727

EP 2003-769916

1023

2003

1023

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE,
MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ,
EE, HU, SK

PRIORITY APPLN. INFO.:

JP 2002-315021

A

2002

1029

JP 2003-192477

A

2003

0704

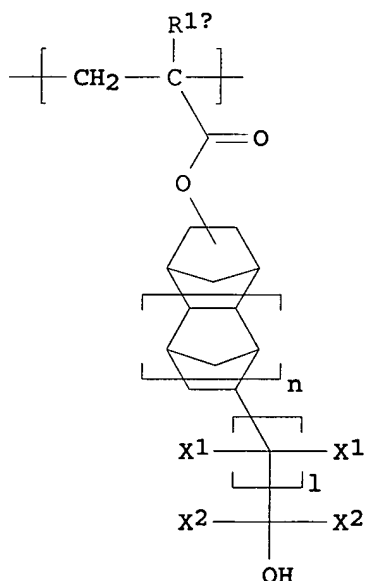
WO 2003-JP13560

W

2003

1023

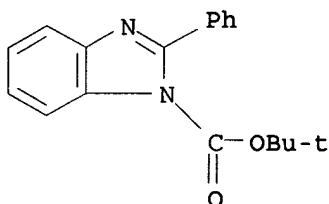
GI



I

AB The invention relates to a radiation-sensitive resin composition which is useful as a chemical amplified **resist** in micro-fabrication with various radiations including far UV rays such as KrF excimer laser radiation and ArF excimer laser radiation. The composition comprises [A] a resin comprising repeating units represented by the general formula I (R1a = H, Me, C1-4 hydroxyalkyl, C1-4 perfluoroalkyl; X1-2 = H, F, C1-4 alkyl, C1-4 fluorinated alkyl, 1 = integer 0-5; n = integer 0-2), [B] a radiation-sensitive acid generator (such as 1-(4-n-butoxynaphthyl)tetrahydrothiophenium nonafluoro-n-butanefluorobutanesulfonate), and, if necessary, [C] an acid diffusion

controller (such as phenylbenzimidazole).
 IT 193810-83-2, N-tert-Butoxycarbonyl-2-phenylbenzimidazole
 (radiation-sensitive resin composition)
 RN 193810-83-2 HCAPLUS
 CN 1H-Benzimidazole-1-carboxylic acid, 2-phenyl-, 1,1-dimethylethyl
 ester (9CI) (CA INDEX NAME)



IC ICM G03F007-039
 CC 74-5 (Radiation Chemistry, Photochemistry, and
Photographic and Other Reprographic Processes)
 Section cross-reference(s): 35
 IT Light-sensitive materials
Photoresists
 (radiation-sensitive resin composition)
 IT 109384-19-2, N-(tert-Butoxycarbonyl)-4-hydroxypiperidine
 193810-83-2, N-tert-Butoxycarbonyl-2-phenylbenzimidazole
 (radiation-sensitive resin composition)
 REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE
 FOR THIS RECORD. ALL CITATIONS AVAILABLE
 IN THE RE FORMAT

L24 ANSWER 9 OF 48 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2004:203439 HCAPLUS

DOCUMENT NUMBER: 140:261399

TITLE: Low silicon-outgassing **resist** for
 bilayer lithography

INVENTOR(S): Khojasteh, Mahmoud M.; Kwong, Ranee W.; Chen,
 Kuang-Jung; Varanasi, Pushkara Rao; Allen,
 Robert D.; Brock, Phillip; Houle, Frances;
 Sooriyakumaran, Ratnam

PATENT ASSIGNEE(S): International Business Machines Corp., USA

SOURCE: U.S. Pat. Appl. Publ., 7 pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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US 2004048187	A1	20040311	US 2002-241937	2002 0911
US 677/0419 ✓	B2	20040803		
WO 2004068243	A1	20040812	WO 2003-US28770	2003 0911

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA,
 CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI,

GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG,
 KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK,
 MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU,
 SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA,
 UG, UZ, VC, VN, YU, ZA, ZM, ZW
 RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM,
 AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ,
 DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL,
 PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN,
 GQ, GW, ML, MR, NE, SN, TD, TG
 EP 1546813 A1 20050629 EP 2003-815294

2003

0911

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE,
 MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ,
 EE, HU, SK

PRIORITY APPLN. INFO.:

US 2002-241937

A

2002

0911

WO 2003-US28770

W

2003

0911

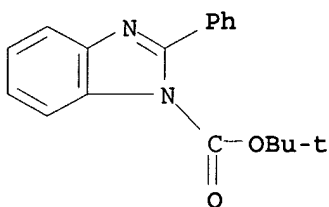
AB The silicon-containing **resist** compns. which have low silicon
 outgassing and high resolution lithog. performance, especially in bilayer
 or multilayer lithog. applications using 193 nm or shorter
 wavelength imaging radiation are enabled by the presence of an
 imaging polymer having silicon-containing, non-acid-labile pendant
 groups. The **resist** compns. of the invention are
 preferably further characterized by the substantial absence of
 silicon-containing acid-labile moieties.

IT 193810-83-2

(low silicon-outgassing **resist** for bilayer lithog.)

RN 193810-83-2 HCAPLUS

CN 1H-Benzimidazole-1-carboxylic acid, 2-phenyl-, 1,1-dimethylethyl
 ester (9CI) (CA INDEX NAME)



IC ICM G03F007-038

ICS G03F007-38

INCL 430270100; 430313000; 430330000; 430905000

CC 74-5 (Radiation Chemistry, Photochemistry, and
Photographic and Other Reprographic Processes)

ST low silicon outgassing **resist** bilayer lithog
photoresist compn

IT **Photoresists**(low silicon-outgassing **resist** for bilayer lithog.)

IT 669067-94-1P 669067-95-2P

(low silicon-outgassing **resist** for bilayer lithog.)

IT 193810-83-2 218151-20-3 240435-11-4 307531-76-6

(low silicon-outgassing **resist** for bilayer lithog.)

REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L24 ANSWER 10 OF 48 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:692240 HCAPLUS

DOCUMENT NUMBER: 139:308867

TITLE: Synthesis and UV/vis spectra of J-aggregating
5,5',6,6'-tetrachlorobenzimidacarbocyanine
dyes for artificial light-harvesting systems
and for asymmetrical generation of
supramolecular helices

AUTHOR(S): Pawlik, Andreas; Quart, Andre; Kirstein,
Stefan; Abraham, Hans-Werner; Daehne,
Siegfried

CORPORATE SOURCE: Max-Planck-Institute of Colloids and
Interfaces, Golm/Potsdam, 14476, Germany

SOURCE: European Journal of Organic Chemistry (2003),
(16), 3065-3080

CODEN: EJOCFK; ISSN: 1434-193X

PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 139:308867

AB A new class of dyes, in which the self-assembling property of
surfactants is combined with the capability for light energy
propagation over long distances in dye J-aggregates, is described.
This has been achieved by the syntheses of achiral
5,5',6,6'-tetrachlorobenzimidacarbocyanine dyes possessing
systematically varied hydrophobic and hydrophilic substituents at
their nitrogen atoms. These substituents are introduced into a
5,6-dichlorobenzimidazole precursor by substitution, either
firstly by nucleophilic reaction with ω -bromoalkylnitriles
and secondly by quaternization with alkyl bromides or firstly by
nucleophilic reaction with alkyl bromides and secondly by
quaternization with ω -bromoalkylnitriles or
 ω -bromoalkyl esters and subsequent saponification. The UV/visible
spectra of 20 differently substituted dyes containing the same
chromophore have been investigated. The spectra of the dye
monomers in DMSO are nearly identical, with no signs of optically
activity, whereas in aqueous alkaline solns. quite different spectra are
obtained for the dyes, indicating the formation of different
aggregates depending on the nitrogen substituents. One of these
types of J-aggregate is optically inactive and displays a single
red-shifted (with respect to the dye monomers) absorption band,
resembling the behavior of J-aggregates of common cyanine dyes.
In the cases of strongly amphiphilic 5,5',6,6'-
benzimidacarbocyanines with 1,1'-dialkyl substituents longer than
hexyl and 3,3'-bis(2-carboxyethyl), 3,3'-bis(3-carboxypropyl), or
3,3'-bis(3-sulfopropyl) substituents, a new type of J-aggregate is
formed, and is distinguished by a doubly or even triply split
J-absorption band that displays optical activity. A third type of
aggregate showing different spectral behavior occurs when the dyes
contain very short 3,3'-bis(carboxymethyl) substituents or
strongly hydrophobic fluorinated octyl groups, or when all four
nitrogen atoms are identically substituted by hydrophilic
3-carboxypropyl groups. The various types of dye aggregates have
been characterized through UV/visible spectroscopic parameters
such as the positions and widths of the absorption and

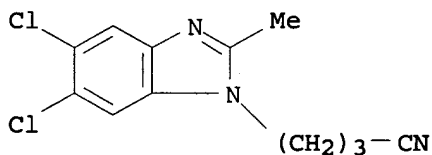
fluorescence bands, the Stokes' shifts, the coupling consts., and the strength of the J-band splitting. The results provide new prospects for the development of new artificial light-harvesting systems as well as for the understanding of the evolution of asymmetry in the biosphere.

IT 611233-49-9P

(intermediate; preparation and UV/vis spectra of J-aggregating cyanine dyes)

RN 611233-49-9 HCAPLUS

CN 1H-Benzimidazole-1-butanenitrile, 5,6-dichloro-2-methyl- (9CI)
(CA INDEX NAME)



CC 41-11 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)

Section cross-reference(s): 28, 73

IT 6858-62-4P 163403-24-5P 163403-28-9P 171354-91-9P
251095-00-8P 611233-49-9P 611233-53-5P 611233-54-6P
611233-55-7P 611233-56-8P 611233-57-9P 611233-58-0P
611233-59-1P 611233-60-4P 611233-61-5P 611233-62-6P
611233-63-7P 611233-64-8P

(intermediate; preparation and UV/vis spectra of J-aggregating cyanine dyes)

REFERENCE COUNT: 52 THERE ARE 52 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L24 ANSWER 11 OF 48 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:510302 HCAPLUS

DOCUMENT NUMBER: 139:76306

TITLE: Heat-developable photographic material giving high-contrast image

INVENTOR(S): Usakawa, Yasushi; Hanyu, Takeshi; Yasukawa, Hiroyuki

PATENT ASSIGNEE(S): Konica Co., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 27 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2003186140	A2	20030703	JP 2001-381446	2001 1214

PRIORITY APPLN. INFO.: JP 2001-381446

2001
1214

OTHER SOURCE(S): MARPAT 139:76306

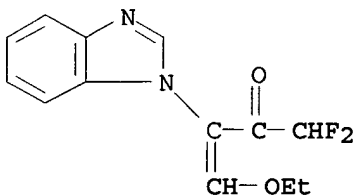
AB The material has a photosensitive layer containing a photosensitive Ag halide on a support, wherein at least one of a photosensitive layer or a light-insensitive layer contains an organic Ag salt, a reducing agent, and CXW:CHA and/or CYA:CHR (X = substituted alkyl, substituted alkenyl, alkynyl, aryl, heterocyclic, halo, acyl, thioacyl, oxalyl, oxyoxalyl, -S-oxalyl, oxamoyl, oxycarbonyl, -S-carbonyl, carbamoyl, thiocarbamoyl, sulfonyl, sulfinyl, oxysulfonyl, -S-sulfonyl, sulfamoyl, oxysulfinyl, -S-sulfinyl, sulfinamoyl, phosphoryl, nitro, imino, N-carbonylimino, N-sulfonylimino, ammonium, sulfonium, phosphonium, pyrylium, immonium; W = H, alkyl, aryl, oxy, thio, amino, nonarom. heterocyclic, silyl; A = N-containing aromatic heterocyclic group linking through N in the ring; Y = H, substituent; R = halo, oxy, thio, amino, heterocyclic, silyl). Preferably, (a) the photosensitive Ag halide is doped with transition metal complexes and/or (b) the photog. material contains hydrazines. The material shows high sensitivity and low fogging even stored at high temperature and humidity.

IT 552301-65-2 552301-67-4

(heat-developable photog. material using N-containing heterocyclic double bond compds. for high-contrast image)

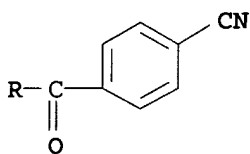
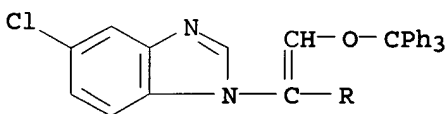
RN 552301-65-2 HCAPLUS

CN 3-Buten-2-one, 3-(1H-benzimidazol-1-yl)-4-ethoxy-1,1-difluoro-(9CI) (CA INDEX NAME)



RN 552301-67-4 HCAPLUS

CN Benzonitrile, 4-[2-(5-chloro-1H-benzimidazol-1-yl)-1-oxo-3-(triphenylmethoxy)-2-propenyl]- (9CI) (CA INDEX NAME)



IC ICM G03C001-498

CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT 85598-48-7 552301-51-6 552301-52-7 552301-53-8 552301-54-9
552301-55-0 552301-56-1 552301-57-2 552301-58-3

552301-59-4 552301-60-7 552301-61-8 552301-62-9
 552301-63-0 552301-64-1 552301-65-2 552301-66-3
 552301-67-4 552301-68-5 552301-69-6 552301-70-9
 552301-71-0 552301-72-1 552301-73-2 552301-74-3
 552301-75-4 552301-76-5 552301-77-6

(heat-developable photog. material using N-containing heterocyclic double bond compds. for high-contrast image)

L24 ANSWER 12 OF 48 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:111378 HCAPLUS

DOCUMENT NUMBER: 138:161077

TITLE: Radiation-sensitive chemically amplified
resist resin composition containing
 specific nitrogen-containing compound as
 acid-diffusion-control agent

INVENTOR(S): Nagai, Tomoki; Kobayashi, Eiichi; Shimokawa,
 Tsutomu

PATENT ASSIGNEE(S): JSR Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 25 pp.
 CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2003043677	A2	20030213	JP 2001-234136	2001 0801
PRIORITY APPLN. INFO.:				2001 0801
				2001 0801

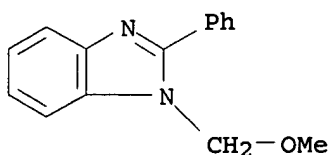
OTHER SOURCE(S): MARPAT 138:161077

AB The title composition contains a radiation-sensitive acid-generator and an acid-sensitive alkali solubilizable resin or both alkali solubilizable resin/alkali-solubility-controlling agent for the resin, wherein sulfur compound (R1)(R2)N-S(O)2-R3(R1-3 = H, C1-20 hydrocarbon). The composition provides the **resists** of high resolution, high durability, and good storageability.

IT **428859-16-9P**
 (radiation-sensitive chemical amplified **resist** resin composition containing specific nitrogen-containing compound)

RN 428859-16-9 HCAPLUS

CN 1H-Benzimidazole, 1-(methoxymethyl)-2-phenyl- (9CI) (CA INDEX NAME)



IC ICM G03F007-004

ICS G03F007-038; G03F007-039; H01L021-027

CC 74-5 (Radiation Chemistry, Photochemistry, and
Photographic and Other Reprographic Processes)
ST radiation sensitive amplified **resist** resin compn
IT **Resists**
(radiation-sensitive, chemical amplified; radiation-sensitive
chemical amplified **resist** resin composition containing specific
nitrogen-containing compound)
IT 101-83-7, Dicyclohexylamine 63458-90-2, 1H-Imidazole, 1-methyl-,
mono(4-methylbenzenesulfonate)
(acid-diffusion-control agent; radiation-sensitive chemical
amplified **resist** resin composition containing specific
nitrogen-containing compound)
IT 107-30-2, Methoxymethyl chloride 122-39-4, Diphenylamine,
reactions 288-32-4, Imidazole, reactions 716-79-0,
2-Phenylbenzimidazole 4106-18-7, 1H-Benzotriazole, 1-
(phenylsulfonyl)- 13578-48-8, 1H-1,2,4-Triazole,
1-(phenylsulfonyl)- 18162-48-6
(radiation-sensitive chemical amplified **resist** resin
composition containing specific nitrogen-containing compound)
IT 4703-19-9P 15728-50-4P 39830-56-3P 46248-01-5P
95418-60-3DP, p-tert-Butoxystyrene homopolymer, hydrolized
123589-22-0DP, ethoxyethyl ether 200808-68-0P 330576-44-8P
406198-64-9P **428859-16-9P** 479628-09-6P 494868-77-8P
(radiation-sensitive chemical amplified **resist** resin
composition containing specific nitrogen-containing compound)

L24 ANSWER 13 OF 48 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2002:807548 HCAPLUS

DOCUMENT NUMBER: 137:331078

TITLE: Radiation-sensitive resin composition
containing polycyclic compound for chemical
amplification **resist**

INVENTOR(S): Yamamoto, Masashi; Ishida, Hidemitsu; Ishii,
Hiroyuki; Kajita, Toru

PATENT ASSIGNEE(S): JSR Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 61 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

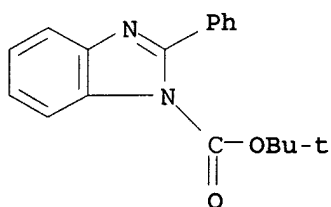
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	
JP 2002311590	A2	20021023	JP 2001-113462	2001 0412
PRIORITY APPLN. INFO.:			JP 2001-113462	2001 0412

GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT
*

- AB The radiation-sensitive resin composition comprises (1) a hardly alkaline soluble resin or a alkaline insol. resin, which, becoming alkaline soluble by reaction with an acid, has repeating units selected from I, II, III (R1,3,5 = H, Me; R2,4,6 = H, C1-4alkyl; X = methylene, O, S; a = integer 1-5) and a repeating unit [CR7(COOCR8)CH2] (R7 = H, Me; R8 = C4-20 monovalent aliphatic hydrocarbon, etc.), (2) an photoacid, and (3) a polycyclic compound having the mol. weight $\leq 1,000$. The radiation-sensitive resin composition provided a fine pattern when it is used as a far-UV **photoresist**.
- IT 193810-83-2, N-tert-Butoxycarbonyl-2-phenylbenzimidazole (acid diffusion suppressing agent; far-UV chemical amplification-type **photoresist** resin composition from)
- RN 193810-83-2 HCAPLUS
- CN 1H-Benzimidazole-1-carboxylic acid, 2-phenyl-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)



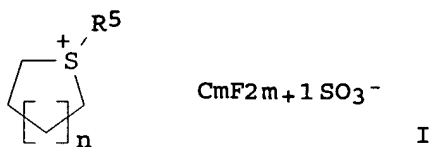
- IC ICM G03F007-039
ICS C08F220-18; G03F007-004; H01L021-027
- CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and Other Reprographic Processes)
Section cross-reference(s): 35, 38
- ST chem amplification **resist** resin compn polycyclic compd;
far UV **photoresist** compn
- IT **Photoresists**
(far-UV chemical amplification-type **photoresist** resin composition containing polycyclic compound)
- IT 1148-79-4, 2,2':6',2''-Terpyridine 193810-83-2,
N-tert-Butoxycarbonyl-2-phenylbenzimidazole 330576-56-2,
N-t-Butoxycarbonyldicyclohexylamine
(acid diffusion suppressing agent; far-UV chemical amplification-type **photoresist** resin composition from)
- IT 195000-69-2P 340964-38-7P 340964-44-5P 473699-88-6P
473699-89-7P
(far-UV chemical amplification-type **photoresist** resin composition from)
- IT 157692-53-0, tert-Butyl deoxycholate 213901-06-5 231296-44-9
(far-UV chemical amplification-type **photoresist** resin composition from)
- IT 194999-85-4 209482-18-8 307531-76-6 380886-84-0
(photoacid; far-UV chemical amplification-type **photoresist** resin composition from)
- IT 96-48-0, γ -Butyrolactone 108-94-1, Cyclohexanone, uses
110-43-0, 2-Heptanone 84540-57-8, Propylene glycol monomethyl ether acetate
(solvent; far-UV chemical amplification-type **photoresist** resin composition from)

L24 ANSWER 14 OF 48 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2002:553153 HCAPLUS
DOCUMENT NUMBER: 137:116956

TITLE: Radiation-sensitive resin composition
 INVENTOR(S): Nishimura, Yukio; Yamamoto, Masafumi; Kataoka, Atsuko; Kajita, Toru
 PATENT ASSIGNEE(S): JSR Corporation, Japan
 SOURCE: Eur. Pat. Appl., 30 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

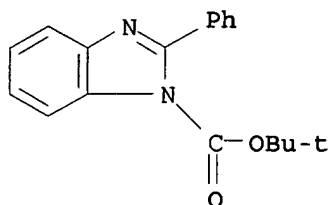
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1225480	A2	20020724	EP 2002-1244	2002 0117
EP 1225480	A3	20030326		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
US 2002132181	A1	20020919	US 2002-46080	2002 0116
US 6838225	B2	20050104		
JP 2003173026	A2	20030620	JP 2002-9054	2002 0117
PRIORITY APPLN. INFO.:			JP 2001-10005	A 2001 0118
			JP 2001-303820	A 2001 0928

OTHER SOURCE(S): MARPAT 137:116956
 GI



- AB The present invention relates to a radiation sensitive resin composition suitable as a chemical amplified **resist** useful for microfabrication utilizing various types of radiation, which exhibits high transparency, excellent resolution, dry etching **resistance**, and sensitivity, produces good pattern shapes, and well adheres to substrates. The radiation sensitive resin composition comprises (1) acid-dissociable group-containing resin insol. in alkali but becoming soluble in alkali when the acid-dissociable group dissociates, and containing recurring unit with specific structures; (2) a photoacid generator of formula I (R5 = aromatic hydrocarbon group; m = 1-8; n = 0-5).
- IT 193810-83-2
 (acid diffusion controller; radiation-sensitive resin composition

for photoresist containing)
 RN 193810-83-2 HCAPLUS
 CN 1H-Benzimidazole-1-carboxylic acid, 2-phenyl-, 1,1-dimethylethyl
 ester (9CI) (CA INDEX NAME)



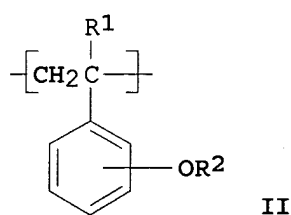
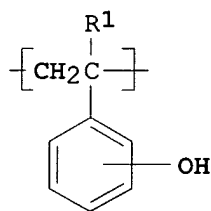
IC ICM G03F007-039
 ICS G03F007-004
 CC 74-5 (Radiation Chemistry, Photochemistry, and
Photographic and Other Reprographic Processes)
 Section cross-reference(s): 35, 38
 ST **photoresist** resin compn acid generator
 IT **Photoresists**
 (radiation-sensitive resin composition for)
 IT 1116-76-3, Tri-n-octylamine 4847-93-2 7560-83-0,
 Methylcyclohexylamine **193810-83-2** 330576-56-2,
 N-t-Butoxycarbonyldicyclohexylamine
 (acid diffusion controller; radiation-sensitive resin composition
 for **photoresist** containing)
 IT 66003-78-9, Triphenylsulfonium trifluoromethanesulfonate
 144317-44-2, Triphenylsulfonium nonafluoro-n-butanesulfonate
 194999-85-4 209482-18-8 330576-58-4 380886-84-0
 406198-76-3
 (acid generator; radiation-sensitive resin composition for
photoresist containing)
 IT 157692-53-0, tert-Butyl deoxycholate 169228-97-1, Di-tert-butyl
 1,3-adamantanedicarboxylate 231296-44-9, t-Butoxycarbonylmethyl
 deoxycholate
 (additive; radiation-sensitive resin composition for
photoresist containing)
 IT 340964-24-1 340964-44-5 426262-70-6 443346-74-5
 443346-76-7 443346-77-8
 (resin; radiation-sensitive resin composition for
photoresist containing)
 IT 108-94-1, Cyclohexanone, uses 110-43-0, 2-Heptanone 763-69-9,
 Ethyl 3-ethoxypropionate 84540-57-8, Propylene glycol monomethyl
 ether acetate
 (solvent; radiation-sensitive resin composition for
photoresist containing)

L24 ANSWER 15 OF 48 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 2002:253088 HCAPLUS
 DOCUMENT NUMBER: 136:286596
 TITLE: Radiation sensitive resin composition
 INVENTOR(S): Miyaji, Masaaki; Nagai, Tomoki; Yada, Yuji;
 Numata, Jun; Nishimura, Yukio; Yamamoto,
 Masafumi; Ishii, Hiroyuki; Kajita, Toru;
 Shimokawa, Tsutomu
 PATENT ASSIGNEE(S): JSR Corporation, Japan
 SOURCE: Eur. Pat. Appl., 71 pp.
 CODEN: EPXXDW

DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1193558	A2	20020403	EP 2001-122213	2001 0917
EP 1193558	A3	20020814		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 2002202604	A2	20020719	JP 2000-401302	2000 1228
JP 2002162746	A2	20020607	JP 2001-280035	2001 0914
US 2002058201	A1	20020516	US 2001-953941	2001 0918
US 6933094	B2	20050823		
US 2005214680	A1	20050929	US 2005-116269	2005 0428
PRIORITY APPLN. INFO.:			JP 2000-282689	A 2000 0918
			JP 2000-401302	A 2000 1228
			US 2001-953941	A1 2001 0918

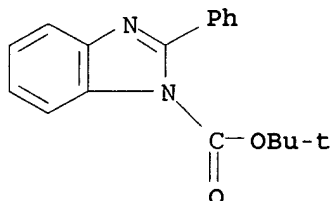
GI



AB A chemical amplified radiation sensitive resin composition comprises a specific copolymer and a photoacid generator, wherein the copolymer contains the recurring unit I and/or II and $\text{CH}_2\text{CR}_1(\text{C}=\text{O})\text{NR}_3\text{R}_4$ ($\text{R}_1 = \text{H, Me}$; $\text{R}_2 = \text{C}_4\text{-10 tertiary alkyl}$; $\text{R}_{3,4} = \text{H, C}_1\text{-12 alkyl, C}_6\text{-15 aromatic, C}_1\text{-12 alkoxy}$, or R_3 and R_4 may form, in combination and together with the nitrogen atom with which the R_3 and R_4 groups bond, a $\text{C}_3\text{-14 cyclic structure}$, provided that R_3 and

R4 are not a hydrogen atom at the same time). The composition effectively responds to various radiations, exhibits excellent resolution and pattern configuration and minimal iso-dense bias, and can form fine patterns at a high precision and in a stable manner.

- IT 193810-83-2
 (acid diffusion control agent; radiation sensitive resin composition for **photoresist** containing)
 RN 193810-83-2 HCAPLUS
 CN 1H-Benzimidazole-1-carboxylic acid, 2-phenyl-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)



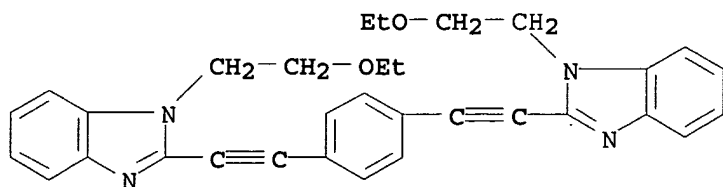
- IC ICM G03F007-038
 ICS G03F007-039; G03F007-004
 CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and Other Reprographic Processes)
 Section cross-reference(s): 35, 38
 ST chem amplified **photoresist** polymer
 IT **Photoresists**
 (chemical amplified; radiation sensitive resin composition for)
 IT 102-60-3 102-71-6, Triethanolamine, uses 1008-89-5,
 2-Phenylpyridine 1116-76-3, Tri-n-octylamine 193810-83-2
 330576-56-2, N-t-Butoxycarbonyldicyclohexylamine 406198-67-2
 (acid diffusion control agent; radiation sensitive resin composition for **photoresist** containing)
 IT 66003-78-9, Triphenylsulfoniumtrifluoromethanesulfonate
 84563-54-2, Bis(4-tert-butylphenyl)iodonium
 trifluoromethanesulfonate 133710-62-0 138529-81-4,
 Bis(cyclohexylsulfonyl)diazomethane 185195-30-6D,
 Bis(4-tert-butylphenyl)iodonium 10-camphorsulfonate, reaction
 product with Et vinyl ether 194999-85-4 205514-94-9,
 N-(10-Camphorsulfonyloxy)succinimide 406198-76-3 406198-77-4
 (acid generator; radiation sensitive resin composition for **photoresist** containing)
 IT 542-92-7, Cyclopentadiene, reactions 2680-03-7,
 N,N-Dimethylacrylamide
 (preparation of radiation sensitive resin composition for **photoresist**)
 IT 25171-46-4P
 (preparation of radiation sensitive resin composition for **photoresist**)
 IT 109-92-2DP, Ethyl vinyl ether, reaction product with
 poly(hydroxystyrene) 928-55-2DP, Ethyl-1-propenyl ether,
 reaction product with poly(hydroxystyrene) 2182-55-0DP,
 Cyclohexyl vinyl ether, reaction product with poly(hydroxystyrene)
 24979-70-2DP, Poly(p-hydroxystyrene), reaction product with Et
 vinyl ether and Et propenyl ether 24979-70-2DP,
 Poly(p-hydroxystyrene), reaction product with di-Bu carbonate
 34619-03-9DP, Di-tert-butyl carbonate, reaction product with
 poly(hydroxystyrene) 95418-60-3DP, Poly (p-tert-Butoxystyrene),
 hydrolyzed, and/or reaction product with cyclohexyl vinyl ether

123589-22-ODP, p-tert-Butoxystyrene-p-hydroxystyrene copolymer,
 reaction product with Et vinyl ether 221524-18-1DP, reaction
 product with Et vinyl ether 221549-67-3DP, hydrolyzed
 340964-44-5P 357167-14-7P 406198-55-8DP, hydrolyzed
 406198-56-9DP, hydrolyzed 406198-57-0DP, hydrolyzed
 406198-58-1DP, hydrolyzed 406198-60-5DP, hydrolyzed
 406198-61-6DP, hydrolyzed 406198-62-7DP, hydrolyzed
 406198-63-8DP, hydrolyzed 406198-64-9DP, hydrolyzed
 406198-68-3P 406198-69-4P 406198-70-7P 406198-71-8P
 406198-72-9P 406198-73-0P 406198-74-1P 406198-75-2P
 (resin; radiation sensitive resin composition for
 photoresist containing)

L24 ANSWER 16 OF 48 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 2002:244559 HCAPLUS
 DOCUMENT NUMBER: 136:286664
 TITLE: Optical recording material containing azole
 compound and recording method
 INVENTOR(S): Saito, Naoki
 PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 19 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002096558	A2	20020402	JP 2000-285853	2000 0920
PRIORITY APPLN. INFO.: JP 2000-285853				2000 0920

OTHER SOURCE(S): MARPAT 136:286664
 AB The material comprises a support coated with a laser-recordable
 layer containing an azole compound A1L1mA2n [A1-2 = (substituted)
 azolyl; n = 1-5; L1 = (n + 1)-valent π -conjugated linkage; m =
 0,1; when m = 0, n = 1; A1 and L1, A2 and L1, A1 and A2 may form a
 ring]. Information is recorded by irradiating laser with
 ≤ 550 nm on the material. The material is recorded and read
 by ≤ 450 nm laser beam and suited for high d. recording.
 IT 405885-79-2
 (optical recording material containing azole compound)
 RN 405885-79-2 HCAPLUS
 CN 1H-Benzimidazole, 2,2'-(1,4-phenylenedi-2,1-ethynediyl)bis[1-(2-
 ethoxyethyl)- (9CI) (CA INDEX NAME)]



IC ICM B41M005-26
 ICS G11B007-0045; G11B007-24; C09B023-00; C09B057-00
 CC 74-12 (Radiation Chemistry, Photochemistry, and
Photographic and Other Reprographic Processes)
 IT 405885-67-8 405885-71-4 405885-75-8 **405885-79-2**
 405885-83-8 405885-87-2 405885-91-8
 (optical recording material containing azole compound)

L24 ANSWER 17 OF 48 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2001:918945 HCAPLUS

DOCUMENT NUMBER: 136:45683

TITLE: Radiation-sensitive resin composition for
 chemical amplified **resist**

INVENTOR(S): Nishimura, Yukio; Yamahara, Noboru; Yamamoto,
 Masafumi; Kajita, Toru; Shimokawa, Tsutomu;
 Ito, Hiroshi

PATENT ASSIGNEE(S): JSR Corporation, Japan; International Business
 Machines Corporation

SOURCE: Eur. Pat. Appl., 63 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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EP 1164434	A2	20011219	EP 2001-114503	2001 0615
EP 1164434	A3	20041222		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 2002072484	A2	20020312	JP 2001-108824	2001 0406
US 2002009668	A1	20020124	US 2001-879894	2001 0614
US 6800414	B2	20041005		
SG 100729	A1	20031226	SG 2001-3498	2001 0614
CN 1332205	A	20020123	CN 2001-124927	2001 0615
TW 536661	B	20030611	TW 2001-90114559	2001 0615
US 2004241580	A1	20041202	US 2004-867892	2004 0616
US 6964840	B2	20051115		
PRIORITY APPLN. INFO.:			JP 2000-182297	A 2000 0616
			JP 2001-108824	A

2001
0406US 2001-879894 A1
2001
0614

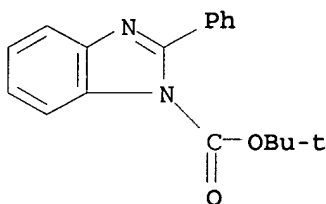
OTHER SOURCE(S): MARPAT 136:45683

AB A radiation-sensitive resin composition comprising an acid-labile group-containing resin and a photoacid generator is disclosed. The resin has a structure of X1R2COR1 (R1 = H, monovalent acid-labile group, C1-6 alkyl which does not have an acid-labile group, C2-7 alkylcarbonyl which does not have an acid-labile group; X1 = C1-4 fluorinated alkyl; and R2 = H, C1-10 alkyl, C1-10 fluorinated alkyl). The resin composition exhibits high transmittance of radiation, high sensitivity, resolution, and pattern shape, and is useful as a chemical amplified **resist** in producing semiconductors at a high yield.

IT 193810-83-2, N-tert-Butoxycarbonyl-2-phenylbenzimidazole (acid diffusion control agent for radiation-sensitive **resist** composition)

RN 193810-83-2 HCAPLUS

CN 1H-Benzimidazole-1-carboxylic acid, 2-phenyl-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)



IC ICM G03F007-004

ICS G03F007-039

CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and Other Reprographic Processes)
Section cross-reference(s): 35, 38, 76

ST chem amplified radiation electron beam **photoresist** microfabrication

IT **Photoresists**
(acid-labile group-containing resin for radiation-sensitive **resist** composition)

IT Polyalkenamers
(acid-labile group-containing resin for radiation-sensitive **resist** composition)

IT Semiconductor device fabrication
(radiation-sensitive **resist** composition for)

IT 1116-76-3, Tri-n-octylamine 2052-49-5, Tetra-n-butylammoniumhydroxide 4847-93-2, 3-Piperidino-1,2-propanediol
193810-83-2, N-tert-Butoxycarbonyl-2-phenylbenzimidazole
330576-56-2, N-tert-Butoxycarbonyldicyclohexylamine
(acid diffusion control agent for radiation-sensitive **resist** composition)

IT 144317-44-2, Triphenylsulfonium nonafluoro-n-butanesulfonate
194999-85-4 213740-80-8 307531-76-6 330576-58-4
380886-84-0
(acid generator for radiation-sensitive **resist**)

composition)

IT 370099-14-2P 370102-83-3P 380886-62-4P 380886-63-5P
 380886-66-8P 380886-68-0P 380886-69-1P 380886-70-4P
 380886-71-5P 380886-72-6DP, hydrogenated 380886-72-6P
 380886-73-7DP, hydrogenated 380886-74-8DP, hydrogenated
 380886-74-8P 380886-75-9DP, hydrogenated 380886-76-0DP,
 hydrogenated 380886-76-0P 380886-77-1DP, hydrogenated
 380886-78-2P 380886-79-3P 380886-80-6P 380886-81-7P
 380886-82-8P 380886-83-9P 380915-67-3P
 (acid-labile group-containing resin for radiation-sensitive
 resist composition)

IT 157692-53-0, tert-Butyl deoxycholate 169228-97-1, Di-tert-butyl
 1,3-adamantanedicarboxylate 231296-44-9, t-
 Butoxycarbonylmethyldeoxycholate 296242-01-8
 (alicyclic additive for radiation-sensitive resist
 composition)

IT 77-73-6, Dicyclopentadiene 542-92-7, Cyclopentadiene, reactions
 646-97-9, 1,1-Bis(trifluoromethyl)-3-buten-1-ol 5292-43-3,
 tert-Butyl bromoacetate
 (preparation of acid-labile group-containing resin for
 radiation-sensitive resist composition)

IT 196314-61-1P 196314-63-3P 365533-00-2P 380886-59-9P
 380886-60-2P
 (preparation of acid-labile group-containing resin for
 radiation-sensitive resist composition)

L24 ANSWER 18 OF 48 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2001:918944 HCAPLUS
 DOCUMENT NUMBER: 136:45682
 TITLE: Radiation-sensitive resin composition
 INVENTOR(S): Kobayashi, Eiichi; Numata, Jun; Yamachika,
 Mikio; Yamamoto, Masafumi
 PATENT ASSIGNEE(S): JSR Corporation, Japan
 SOURCE: Eur. Pat. Appl., 25 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1164433	A1	20011219	EP 2001-114245	2001 0612
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 2002072477	A2	20020312	JP 2000-177487	2000 0613
US 2002012872	A1	20020131	US 2001-878274	2001 0612
US 6506537	B2	20030114		
PRIORITY APPLN. INFO.:			JP 2000-176171	A 2000 0612
			JP 2000-177487	A

2000
0613

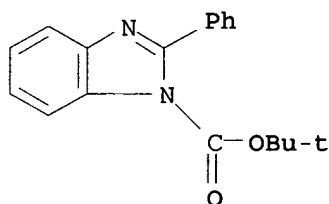
OTHER SOURCE(S): MARPAT 136:45682

AB A pos.-type radiation-sensitive resin composition is provided. The composition includes: (A) a low-mol. compound comprising a compound having at least one amino group having H bonded to N; at least one H in the amino group having been substituted with a t-butoxycarbonyl group; (B) a radiation-sensitive acid generator; and (C) a silicon-atom-containing resin comprising an alkali-insol. or alkali-slightly-soluble resin having been protected with an acid-cleavable group; the resin being capable of turning soluble in alkali upon cleavage of the acid-cleavable group. This radiation-sensitive resin composition is effectively responsive to radiations of various types, has superior sensitivity and resolution and also a superior long-term storage stability, and is useful as a pos.-type chemical amplified resist.

IT 193810-83-2, N-tert-Butoxycarbonyl-2-phenylbenzimidazole
(acid diffusion control agent for radiation-sensitive resin composition)

RN 193810-83-2 HCAPLUS

CN 1H-Benzimidazole-1-carboxylic acid, 2-phenyl-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)



IC ICM G03F007-004

ICS G03F007-075

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 38, 76

ST radiation sensitive resin chem amplified resist

IT Photoresists

(radiation-sensitive resin composition for)

IT 151476-40-3, N-t-Butoxycarbonyl-1-adamantylamine

193810-83-2, N-tert-Butoxycarbonyl-2-phenylbenzimidazole

197144-31-3 330576-56-2, N-t-Butoxycarbonyldicyclohexylamine

353275-42-0

(acid diffusion control agent for radiation-sensitive resin composition)

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L24 ANSWER 19 OF 48 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2001:900258 HCAPLUS

DOCUMENT NUMBER: 136:29177

TITLE: Radiation-sensitive resin composition for
chemical amplified pos. tone resist

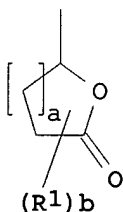
INVENTOR(S): Nishimura, Yukio; Douki, Katsuji; Kajita,
Toru; Shimokawa, Tsutomu

PATENT ASSIGNEE(S): JSR Corporation, Japan

SOURCE: Eur. Pat. Appl., 54 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1162506	A1	20011212	EP 2001-113944	2001 0607
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 2002062657	A2	20020228	JP 2001-95877	2001 0329
US 2002009667	A1	20020124	US 2001-874977	2001 0607
US 6753124	B2	20040622		
PRIORITY APPLN. INFO.:			JP 2000-173708	A 2000 0609
			JP 2001-95877	A 2001 0329

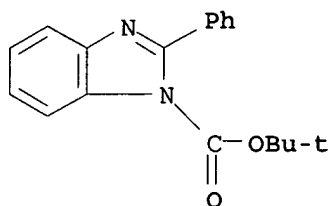
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- AB A radiation-sensitive resin composition used as a chemical amplified pos. tone **resist** responsive to short wavelength active radiation such as KrF excimer laser and ArF excimer laser is disclosed. The resin composition comprises: (A) an acid-dissociable group-containing resin which is insol. or scarcely soluble in alkali and becomes alkali soluble when the acid-dissociable group dissocs., the resin comprising a lactone cyclic structure I (a = 1-3; b = 0-9; R1 = monovalent organic group); and (B) a photoacid generator. The composition has high transmittance of radiation, exhibits high sensitivity, resolution, and pattern shape, and can produce semiconductors at a high yield without producing resolution defects during microfabrication.
- IT 193810-83-2, N-tert-Butoxycarbonyl-2-phenylbenzimidazole (acid diffusion control agent; radiation-sensitive resin composition for chemical amplified pos. tone **resist**)

RN 193810-83-2 HCAPLUS
CN 1H-Benzimidazole-1-carboxylic acid, 2-phenyl-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)



IC ICM G03F007-039
CC 74-5 (Radiation Chemistry, Photochemistry, and
Photographic and Other Reprographic Processes)
Section cross-reference(s): 35, 38, 76
ST chem amplified **photoresist** acid dissociable lactone
cyclic
IT **Positive photoresists**
(radiation-sensitive resin composition for)
IT 1116-76-3, Tri-n-octylamine 3033-62-3, Bis(2-
dimethylaminoethyl)ether **193810-83-2**,
N-tert-Butoxycarbonyl-2-phenylbenzimidazole 330576-56-2,
N-tert-Butoxycarbonyldicyclohexylamine
(acid diffusion control agent; radiation-sensitive resin composition
for chemical amplified pos. tone **resist**)
IT 157692-53-0, tert-Butyl deoxycholate 169228-97-1, Di-tert-butyl
1,3-adamantanedicarboxylate 231296-44-9, t-Butoxycarbonylmethyl
deoxycholate 296242-01-8, 2,5-Dimethyl-2,5-di(1-
adamantylcarbonyloxy)hexane
(additives; radiation-sensitive resin composition for chemical
amplified pos. tone **resist**)
IT 542-92-7, Cyclopentadiene, reactions 814-68-6, Acryloyl chloride
920-46-7, Methacryloyl chloride 34862-06-1, 4,5-
Diacetoxypentanal 78984-88-0
(preparation of radiation-sensitive resin composition for chemical amplified
pos. tone **resist**)
IT 10374-51-3P, 4-Hydroxymethyl-γ-butyrolactone 156938-09-9P
259154-20-6P, 4,5-Diacetoxypentanoic acid 264193-11-5P
379257-66-6P 379257-68-8P 379257-69-9P 379257-70-2P
(preparation of radiation-sensitive resin composition for chemical amplified
pos. tone **resist**)
IT 379257-71-3P 379257-72-4P 379257-73-5P 379257-75-7P
379257-76-8P 379257-77-9P 379257-78-0P 379257-79-1P
379257-81-5P 379257-82-6P 379257-83-7P
(radiation-sensitive resin composition for chemical amplified pos. tone
resist)
IT 96-48-0, γ-Butyrolactone 108-94-1, Cyclohexanone, uses
110-43-0, 2-Heptanone 84540-57-8, Propylene glycol monomethyl
ether acetate
(solvent; radiation-sensitive resin composition for chemical amplified
pos. tone **resist**)
REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L24 ANSWER 20 OF 48 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2001:581559 HCAPLUS

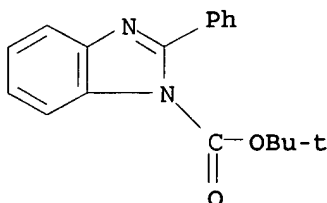
DOCUMENT NUMBER: 135:160153
 TITLE: Radiation-sensitive resin composition
 INVENTOR(S): Numata, Jun; Suzuki, Aki; Hara, Hiromichi;
 Natsume, Norihiro; Murata, Kiyoshi; Yamamoto,
 Masafumi; Soyano, Akimasa; Kajita, Toru;
 Shimokawa, Tsutomu
 PATENT ASSIGNEE(S): JSR Corp., Japan
 SOURCE: Eur. Pat. Appl., 77 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1122605	A2	20010808	EP 2001-102326	2001 0201
EP 1122605	A3	20010919		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 2001215689	A2	20010810	JP 2000-28456	2000 0204
JP 2002082438	A2	20020322	JP 2000-273962	2000 0908
US 2001023050	A1	20010920	US 2001-774714	2001 0201
US 6623907	B2	20030923		
SG 90230	A1	20020723	SG 2001-565	2001 0205
PRIORITY APPLN. INFO.:			JP 2000-28456	A 2000 0204
			JP 2000-273962	A 2000 0908

AB The invention relates to a pos.- or neg.-tone radiation sensitive resin composition suitable as a **resist** for ultra-microprocessing using UV, deep-UV, x-ray radiation and charged particle rays. A pos. tone radiation-sensitive resin composition containing (a) a low mol. weight compound having at least one amino group in which the nitrogen atom has at least one hydrogen atom bonded thereto and at least one of the hydrogen atoms is replaced by a tert-butoxycarbonyl group, (b) a photoacid generator and (c) a resin insol. or scarcely soluble in alkali which is protected by an acid-soluble group and becomes soluble in alkali when the acid-dissociating group dissociates or an alkali-soluble resin and an alkali solubility control agent, is disclosed. Also disclosed is a neg.-tone radiation sensitive resin composition comprising a low mol. weight compound, a photoacid generator, and an alkali-soluble resin, and a compound capable of crosslinking with alkali-soluble resin in the presence of an acid. The composition is useful as a chemical amplified **resist**

which effectively responds to various radiations, exhibits superior sensitivity and resolution, forms fine patterns at a high precision and in a stable manner even if the patterns are isolated line patterns.

IT 193810-83-2
 (acid-diffusion control agent; pos.-tone radiation-sensitive resin composition containing acid-diffusion control agent of)
 RN 193810-83-2 HCAPLUS
 CN 1H-Benzimidazole-1-carboxylic acid, 2-phenyl-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)



IC ICM G03F007-004
 ICS G03F007-038; G03F007-039
 CC 74-5 (Radiation Chemistry, Photochemistry, and
Photographic and Other Reprographic Processes)
 ST radiation resin neg pos tone **resist**
 IT **Resists**
 (chemical amplified; pos.-tone radiation-sensitive resin composition containing alkali-soluble acid-dissociating group containing polymer)
 IT **Photoresists**
 (pos.-tone radiation-sensitive resin composition containing alkali-soluble acid-dissociating group containing polymer)
 IT 59255-81-1 151476-40-3 193810-83-2 330576-56-2
 353275-42-0
 (acid-diffusion control agent; pos.-tone radiation-sensitive resin composition containing acid-diffusion control agent of)

L24 ANSWER 21 OF 48 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 2001:208019 HCAPLUS
 DOCUMENT NUMBER: 134:245232
 TITLE: Radiation-sensitive resin composition as chemically-amplified **photoresist** with superior dry etching **resistance** and resolution for deep UV lithography
 INVENTOR(S): Douki, Katsuji; Murata, Kiyoshi; Ishii, Hiroyuki; Kajita, Toru; Shimokawa, Tsutomu
 PATENT ASSIGNEE(S): JSR Corporation, Japan
 SOURCE: Eur. Pat. Appl., 52 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1085379	A1	20010321	EP 2000-120000	2000 0914

EP 1085379	B1	20060104		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, CY				
JP 2001109157	A2	20010420	JP 1999-291291	1999 1013
JP 2001209181	A2	20010803	JP 2000-277966	2000 0913
US 6482568	B1	20021119	US 2000-662160	2000 0914
PRIORITY APPLN. INFO.:			JP 1999-264110	A 1999 0917
			JP 1999-291291	A 1999 1013
			JP 1999-325222	A 1999 1116

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* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT
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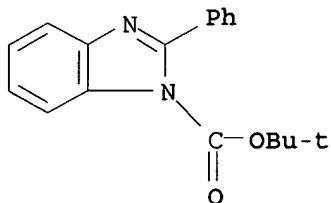
AB A radiation-sensitive resin composition comprises (a) a resin containing an acid-dissociable group which is insol. or scarcely soluble in alkali and becomes alkali soluble when the acid-dissociable group dissociates., comprising the following recurring unit I, recurring unit II, and at least one of the recurring units III and IV (A, B = H, C1-4-alkyl; X, Y = H, monovalent O or N containing polar group, X joining together with Y may form dicarboxylic anhydride group; n = 0-2; R1 = H, CH3; R2 = CR33; R3 = monovalent alicyclic hydrocarbon group having 4-20 carbon atoms, its derivative, C1-4-alkyl; R4 = divalent hydrocarbon group having alicyclic skeleton containing 3-15 carbons), (b) a photoacid generator, (c) an acid diffusion controller, and (d) alicyclic additive. The radiation-sensitive resin composition is suitable for use as a chemical-amplified **resist** showing sensitivity to active radiation such as deep UV rays represented by a KrF excimer laser or ArF excimer laser, exhibiting superior dry etching **resistance** without being affected by types of etching gas, having high radiation transmittance, exhibiting excellent basic characteristics as a **resist** such as sensitivity, resolution, and pattern shape, possessing excellent storage stability as a composition, and exhibiting sufficient adhesion to substrates.

IT 193810-83-2
(acid diffusion controller; copolymer compns. as chemical-amplified **photoresist** with superior dry etching **resistance**, sensitivity and resolution properties for deep UV lithog.)

RN 193810-83-2 HCAPLUS

CN 1H-Benzimidazole-1-carboxylic acid, 2-phenyl-, 1,1-dimethylethyl

ester (9CI) (CA INDEX NAME)



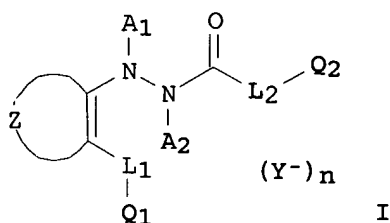
IC ICM G03F007-039
 CC 74-5 (Radiation Chemistry, Photochemistry, and
Photographic and Other Reprographic Processes)
 Section cross-reference(s): 38
 ST chem amplified **photoresist** polymer prepn compn deep UV
 lithog; dry etching **resistance** sensitivity resolu chem
 amplified **photoresist** polymer
 IT **Photoresists**
 (UV; copolymer compns. as chemical-amplified **photoresist**
 with superior dry etching **resistance**, sensitivity and
 resolution properties for deep UV lithog.)
 IT 103-76-4, 1-(2-Hydroxyethyl)piperazine 611-36-9,
 4-Hydroxyquinoline 1116-76-3, Tri-n-octylamine 3033-62-3,
 Bis(2-dimethylaminoethyl)ether 7560-83-0,
 Methyldicyclohexylamine 193810-83-2 330576-56-2
 (acid diffusion controller; copolymer compns. as
 chemical-amplified **photoresist** with superior dry etching
resistance, sensitivity and resolution properties for deep
 UV lithog.)
 IT 330576-37-9P 330576-38-0P 330576-39-1P 330576-41-5P
 330576-42-6P 330576-43-7P 330576-44-8P 330576-46-0P
 330576-47-1P 330576-48-2P 330576-49-3P 330576-51-7P
 330576-52-8P 330576-54-0P 330576-55-1P
 (copolymer compns. as chemical-amplified **photoresist**
 with superior dry etching **resistance**, sensitivity and
 resolution properties for deep UV lithog.)
 IT 498-66-8D, Bicyclo[2.2.1]hept-2-ene, imide derivs. 66003-78-9,
 Triphenylsulfonium trifluoromethanesulfonate 144317-44-2,
 Triphenylsulfonium nonafluoro-n-butanesulfonate 194999-85-4
 209482-18-8 330576-58-4
 (photoacid generator; copolymer compns. as chemical-amplified
photoresist with superior dry etching
resistance, sensitivity and resolution properties for deep
 UV lithog.)
 IT 157692-53-0, tert-Butyl deoxycholate 169228-97-1 231296-44-9,
 t-Butoxycarbonylmethyl deoxycholate
 (**resist** additive; copolymer compns. as
 chemical-amplified **photoresist** with superior dry etching
resistance, sensitivity and resolution properties for deep
 UV lithog.)
 REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE
 FOR THIS RECORD. ALL CITATIONS AVAILABLE
 IN THE RE FORMAT

L24 ANSWER 22 OF 48 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 2001:208013 HCAPLUS
 DOCUMENT NUMBER: 134:229662
 TITLE: Photographic material containing a novel

INVENTOR(S): hydrazide type
 Loccufier, Johan; Lingier, Stefaan; Meeus,
 Pascal
 PATENT ASSIGNEE(S): Agfa-Gevaert N.V., Belg.
 SOURCE: Eur. Pat. Appl., 23 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1085371	A1	20010321	EP 1999-203011	1999 0915
EP 1085371	B1	20030806		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
US 6361920	B1	20020326	US 2000-661245	2000 0913
JP 2001109094	A2	20010420	JP 2000-279567	2000 0914
PRIORITY APPLN. INFO.:			EP 1999-203011	A 1999 0915
			US 1999-155333P	P 1999 0922

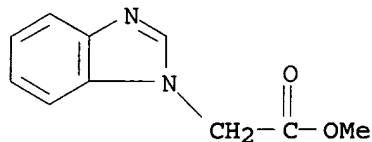
OTHER SOURCE(S): MARPAT 134:229662
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AB The invention relates to a high contrast photog. materials with improved properties and to a novel class of nucleating agents contained in them. The material contains a hydrazide represented by (I), where L1 = divalent linking chain, Q1 = cationic heterocyclic ring containing N, L2 = divalent linking group, A1 and A2 = H or a group yielding H, and Y = anion. The material is preferably a graphic arts material for pre-press applications. High gradation and excellent dot quality, exposure latitude and stability on continuous processing are obtained.

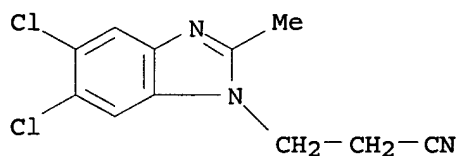
IT 19809-30-4
 (synthesis of oxalyl-amide hydrazide for photog. material)

containing novel hydrazide using)
RN 19809-30-4 HCAPLUS
CN 1H-Benzimidazole-1-acetic acid, methyl ester (9CI) (CA INDEX NAME)



IC ICM G03C001-06
ICS C07D213-42; C07D215-12; C07D401-12; C07F009-58; C07F009-60;
C07F009-62
CC 74-2 (Radiation Chemistry, Photochemistry, and
Photographic and Other Reprographic Processes)
IT 552-89-6, 2-Nitrobenzaldehyde 3731-53-1, 4-Aminomethylpyridine
19809-30-4 25023-22-7
(synthesis of oxalyl-amide hydrazide for photog. material
containing novel hydrazide using)
REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L24 ANSWER 23 OF 48 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1999:655531 HCAPLUS
DOCUMENT NUMBER: 132:4060
TITLE: Synthesis of a hydrophobic
benzimidotricarbocyanine dye
AUTHOR(S): Kharitonova, O. V.; Abramov, A. A.;
Zhidkoblinova, I. N.
CORPORATE SOURCE: Mosk. Gos. Akad. Tonkoi Khimicheskoi
Tekhnologii im. Lomonosova, Moscow, Russia
SOURCE: Zhurnal Nauchnoi i Prikladnoi Fotografii
(1999), 44(4), 38-43
CODEN: ZNPFKE; ISSN: 0869-6144
PUBLISHER: Nauka
DOCUMENT TYPE: Journal
LANGUAGE: Russian
AB Condensation of 3-carboxyethyl-2-methyl-1-octyl-5,6-
dichlorobenzimidazolium bromide with [5-(N-methyl-N-phenylamino)-3-
octyl-2,4-pentadienylidenel]-N-methyl-N-phenylammonium chloride
yielded 3,3'-carboxyethyl-1,1',11-trioctyl-5,5',6,6'-
tetrachlorobenzimidotricarbocyanine sodium salt. A pentamethine
salt was synthesized reacting 1,1,5,5-tetraethoxy-3-octyl-3-
pentanol with N-methylaniline hydrochloride in alc. under
short-term boiling.
IT 251094-98-1P
(synthesis of a hydrophobic benzimidotricarbocyanine dye)
RN 251094-98-1 HCAPLUS
CN 1H-Benzimidazole-1-propanenitrile, 5,6-dichloro-2-methyl- (9CI)
(CA INDEX NAME)



CC 41-3 (Dyes, Organic Pigments, Fluorescent Brighteners, and
Photographic Sensitizers)
 IT 171193-68-3P **251094-98-1P** 251094-99-2P 251095-00-8P
 251095-01-9P
 (synthesis of a hydrophobic benzimidotricarbocyanine dye)

L24 ANSWER 24 OF 48 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1998:405517 HCAPLUS

DOCUMENT NUMBER: 129:128903

TITLE: Heat-developable photographic recording
 material for plate making

INVENTOR(S): Yamada, Kozaburo; Kubo, Toshiaki; Suzuki,
 Hiroyuki

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 71 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

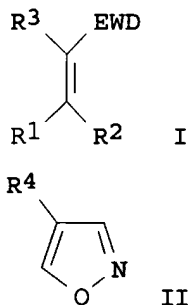
LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO. -----	KIND ----	DATE -----	APPLICATION NO. -----	DATE
JP 10161270	A2	19980619	JP 1997-240511	1997 0821
PRIORITY APPLN. INFO.:			JP 1996-279957	A 1996 1001

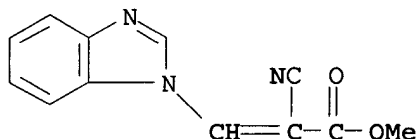
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AB In the title recording material having ≥ 1 image-forming
 layer, a specified hydrazine derivative and a compound I and/or II (R1-3
 = H, monovalent substitute; EDW = electron attracting group; R4 =

monovalent substitute) are incorporated. The invention recording material can be developed in dry process and is useful for photog. plate making.

IT 210360-51-3
(combined with specified hydrazine derivative for heat-developable photog. material)
RN 210360-51-3 HCAPLUS
CN 2-Propenoic acid, 3-(1H-benzimidazol-1-yl)-2-cyano-, methyl ester (9CI) (CA INDEX NAME)



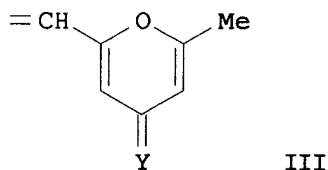
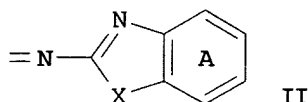
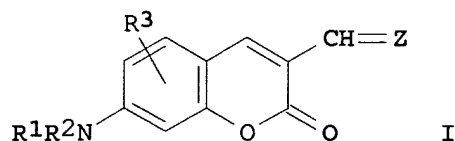
IC ICM G03C001-498
ICS G03C001-498
CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
IT 94-05-3 4432-64-8 5515-12-8 15166-81-1 61310-53-0
62701-44-4 68776-58-9, 4-Isloxazolecarbonitrile 76196-81-1
189154-57-2 189154-59-4 191489-55-1 210360-47-7
210360-48-8 210360-49-9 210360-50-2 210360-51-3
210360-52-4 210363-29-4
(combined with specified hydrazine derivative for heat-developable photog. material)

L24 ANSWER 25 OF 48 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1998:112700 HCAPLUS
DOCUMENT NUMBER: 128:210864
TITLE: Coumarin compound as photosensitizer and its use in visible ray-curable ink or resist
INVENTOR(S): Suzuki, Rihoko; Otsuji, Akio; Urakami, Tatsunobu; Takuma, Keisuke
PATENT ASSIGNEE(S): Mitsui Toatsu Chemicals, Inc., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 14 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 10045741	A2	19980217	JP 1996-209756	1996 0808

PRIORITY APPLN. INFO.: JP 1996-209756
1996 0808

OTHER SOURCE(S): MARPAT 128:210864
GI



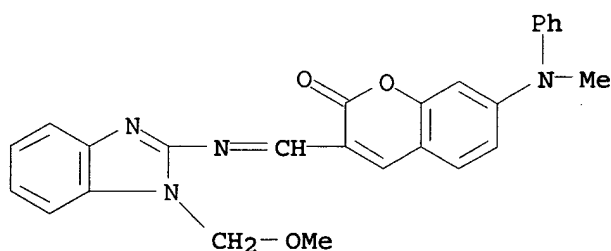
AB The coumarins are represented as I [R1, R2 = H, alkyl, aryl, alkenyl, aralkyl, alkoxyalkyl, aryloxyalkyl, alkenyloxyalkyl, hydroxyalkyl, Q1[O(CH2)p]q; Q1 = H, alkyl, hydroxyalkyl, hydroxyalkoxyalkyl, alkoxyalkyl, cycloalkyl; p, q = 1-5; R1 and R2 may form ring optionally together with amino-substituted benzene ring; R3 = H, halogen, alkyl, alkoxyalkyl, hydroxyalkyl, halogenoalkyl, OH, alkoxy, aryloxy, alkoxyalkoxy, alkylthio, arylthio, sulfonate salt group; Z = heterocycle group II, pyrone-type group III; X = O, S, NH, NR4; R4 = alkyl, aryl, aralkyl, alkoxyalkyl, aryloxyalkyl, alkenyloxyalkyl, Q1[O(CH2)p]q; II may be substituted; Y = O, :C(CN)2]. A photosensitizer containing I, a visible ray-sensitive resin composition containing I, visible ray-sensitive ink containing I and a solvent, and visible ray-sensitive material having the resin composition on a substrate, i.e., **photoresist**, are also claimed.

IT 203855-16-7 203855-23-6

(coumarin derivs. as photosensitizers for visible ray-sensitive inks or **resists**)

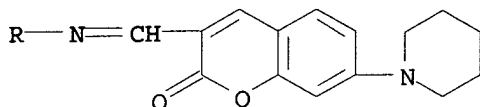
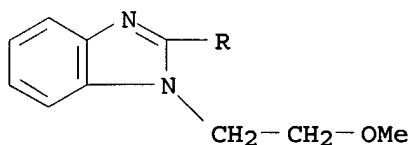
RN 203855-16-7 HCAPLUS

CN 2H-1-Benzopyran-2-one, 3-[[[1-(methoxymethyl)-1H-benzimidazol-2-yl]imino]methyl]-7-(methylphenylamino)- (9CI) (CA INDEX NAME)



RN 203855-23-6 HCAPLUS

CN 2H-1-Benzopyran-2-one, 3-[[[1-(2-methoxyethyl)-1H-benzimidazol-2-yl]imino]methyl]-7-(1-piperidinyl)- (9CI) (CA INDEX NAME)



IC ICM C07D311-16
 ICS C07D405-12; C07D407-06; C07D413-12; C07D417-12; C07D491-06;
 C08F002-50; C08K005-18; C08L101-00; C09D011-00
 CC 74-5 (Radiation Chemistry, Photochemistry, and
Photographic and Other Reprographic Processes)
 Section cross-reference(s): 27
 ST coumarin compd visible ray sensitizer; ink visible ray sensitive
 photosensitizer; **photoresist** visible ray sensitive
 photosensitizer
 IT **Photoresists**
 (coumarin derivs. as photosensitizers for visible ray-sensitive
 inks or **resists**)
 IT Inks
 (photocurable; coumarin derivs. as photosensitizers for visible
 ray-sensitive inks or **resists**)
 IT 203855-12-3P 203855-13-4P
 (coumarin derivs. as photosensitizers for visible ray-sensitive
 inks or **resists**)
 IT 15625-89-5, Trimethylolpropane triacrylate 203855-14-5
 203855-15-6 203855-16-7 203855-17-8 203855-18-9
 203855-19-0 203855-20-3 203855-21-4 203855-22-5
203855-23-6 203855-24-7 203855-25-8 203855-26-9
 203855-27-0 203855-28-1 203855-29-2 203855-30-5
 203855-31-6 203855-32-7 203855-33-8 203855-34-9
 203855-35-0 203855-37-2, Benzyl methacrylate-4-hydroxyphenyl
 methacrylate-methacrylic acid-methyl methacrylate copolymer
 203856-95-5
 (coumarin derivs. as photosensitizers for visible ray-sensitive
 inks or **resists**)

L24 ANSWER 26 OF 48 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1998:59384 HCAPLUS

DOCUMENT NUMBER: 128:161009

TITLE: Visible ray-sensitive resin compositions,
 inks, photosensitive materials, coumarin
 compounds, and photosensitizers thereof

INVENTOR(S): Suzuki, Rioko; Otsuji, Atsuo; Uragami,
 Tatsunobu; Takuma, Keisuke

PATENT ASSIGNEE(S): Mitsui Toatsu Chemicals, Inc., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 17 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

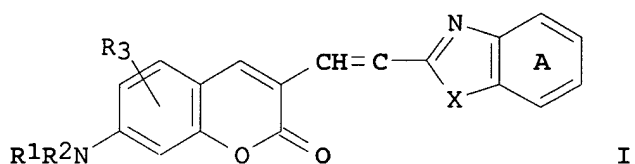
LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 10017604	A2	19980120	JP 1996-172610	1996 0702
JP 3739136	B2	20060125		
JP 2005320338	A2	20051117	JP 2005-148984	2005 0523
PRIORITY APPLN. INFO.:			JP 1996-172610	A3 1996 0702

OTHER SOURCE(S): MARPAT 128:161009
GI



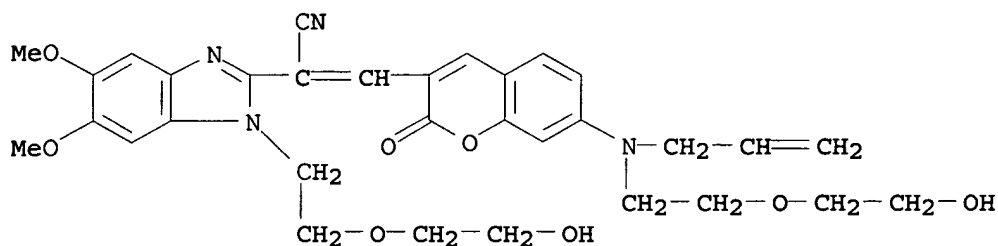
AB The visible ray-sensitive resin compns. contain (A) crosslinkable or polymerizable compds. with ethylenically unsatd. double bonds and (B) photopolymerization initiator compds. containing titanocenes and coumarins I [R1, R2 = H, (substituted) alkyl, aryl, alkenyl, aralkyl, Q1[O(CH2)p]q; Q1 = H, (substituted) alkyl; p, q = 1-5; R1, R2 may be bonded together or bonded with the amino-substituted benzene ring to form a ring; R3 = H, halo, (substituted) alkyl, OH, alkoxy, aryloxy, alkoxyalkoxy, alkylthio, arylthio, SO3H; X = O, S, NH, NR4; R4 = (substituted) alkyl, aryl, aralkyl, Q2[O(CH2)m]n; Q2 = H, (substituted) alkyl; m, n = 1-5; ring-A may be substituted]. The inks contain the visible ray-sensitive resin compns. and solvents. The materials have the visible ray-sensitive resin compns. on substrates. The coumarin compds. and photosensitizers containing the coumarin compds. are also claimed. The compns. have excellent sensitivity to visible rays, especially Ar laser and YAG laser.

IT 202740-01-0 202740-04-3 202740-14-5
202740-18-9

(photosensitizer; **photoresists** containing coumarins and titanocenes and their inks and photosensitive materials)

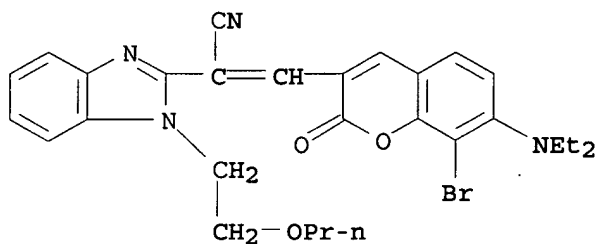
RN 202740-01-0 HCAPLUS

CN 1H-Benzimidazole-2-acetonitrile, 1-[2-(2-hydroxyethoxy)ethyl]- α -[[7-[[2-(2-hydroxyethoxy)ethyl]-2-propenylamino]-2-oxo-2H-1-benzopyran-3-yl]methylene]-5,6-dimethoxy- (9CI) (CA INDEX NAME)



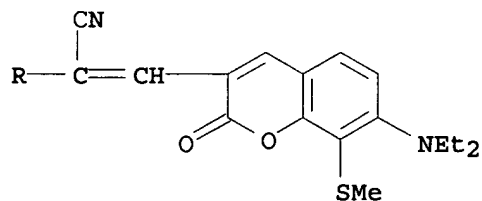
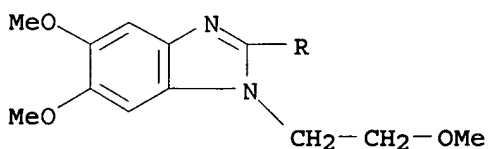
RN 202740-04-3 HCAPLUS

CN 1H-Benzimidazole-2-acetonitrile, α-[[8-bromo-7-(diethylamino)-2-oxo-2H-1-benzopyran-3-yl]methylene]-1-(2-propoxyethyl)- (9CI) (CA INDEX NAME)



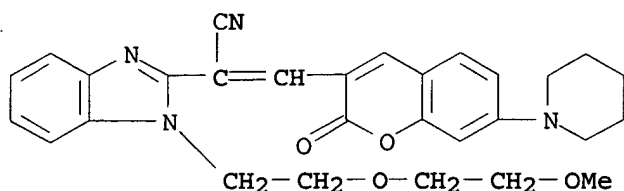
RN 202740-14-5 HCAPLUS

CN 1H-Benzimidazole-2-acetonitrile, α-[[7-(diethylamino)-8-(methylthio)-2-oxo-2H-1-benzopyran-3-yl]methylene]-5,6-dimethoxy-1-(2-methoxyethyl)- (9CI) (CA INDEX NAME)



RN 202740-18-9 HCAPLUS

CN 1H-Benzimidazole-2-acetonitrile, 1-[2-(2-methoxyethoxy)ethyl]-α-[[2-oxo-7-(1-piperidinyl)-2H-1-benzopyran-3-yl]methylene]- (9CI) (CA INDEX NAME)

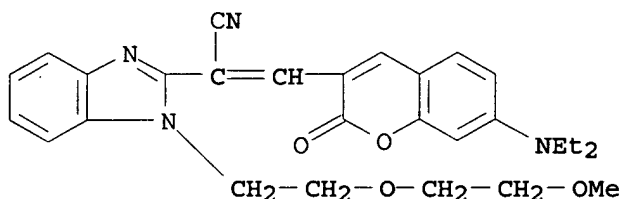


IT 202739-79-5P

(photosensitizer; **photoresists** containing coumarins and titanocenes and their inks and photosensitive materials)

RN 202739-79-5 HCAPLUS

CN 1H-Benzimidazole-2-acetonitrile, α-[[7-(diethylamino)-2-oxo-2H-1-benzopyran-3-yl]methylene]-1-[2-(2-methoxyethoxy)ethyl]- (9CI) (CA INDEX NAME)



IC ICM C08F002-50

ICS G03F007-027; G03F007-029; G03F007-031; C07D405-06; C07D413-06; C07D417-06; C07D491-052; C07D498-16

CC 74-5 (Radiation Chemistry, Photochemistry, and **Photographic** and Other Reprographic Processes)ST visible ray sensitive **resist** coumarin photosensitizer; titanocene coumarin photosensitizer photopolymer initiator **resist**; **photoresist** titanocene coumarin photosensitizer photopolymer initiator

IT Photosensitizers (pharmaceutical)

(coumarins; **photoresists** containing coumarins and titanocenes and their inks and photosensitive materials)

IT Polymerization catalysts

(photopolymer.; **photoresists** containing coumarins and titanocenes and their inks and photosensitive materials)IT **Photoresists**

(photoresists containing coumarins and titanocenes and their inks and photosensitive materials)

IT 125051-32-3

(photopolymer. initiator; **photoresists** containing coumarins and titanocenes and their inks and photosensitive materials)

IT 168027-11-0P 200293-15-8P 202740-24-7P 202740-25-8P 202740-26-9P

(photoresists containing coumarins and titanocenes and their inks and photosensitive materials)

IT 178253-67-3

(photoresists containing coumarins and titanocenes and their inks and photosensitive materials)

IT 105-53-3, Diethyl malonate 50586-80-6 56278-50-3, 2-Benzothiazoleacetonitrile 57597-64-5, 3-Formyl-7-diethylaminocoumarin 136803-42-4

(photoresists containing coumarins and titanocenes and their inks and photosensitive materials)

IT 15625-89-5, Trimethylolpropane triacrylate
(photoresists containing coumarins and titanocenes and their inks and photosensitive materials)

IT 202739-81-9 202739-82-0 202739-83-1 202739-84-2
 202739-85-3 202739-86-4 202739-87-5 202739-88-6
 202739-89-7 202739-90-0 202739-91-1 202739-92-2
 202739-93-3 202739-94-4 202739-95-5 202739-96-6
 202739-97-7 202739-98-8 202739-99-9 202740-00-9
 202740-01-0 202740-02-1 202740-03-2
 202740-04-3 202740-05-4 202740-06-5 202740-07-6
 202740-08-7 202740-09-8 202740-10-1 202740-11-2
 202740-12-3 202740-13-4 202740-14-5 202740-15-6
 202740-16-7 202740-17-8 202740-18-9 202740-19-0
 202740-20-3 202740-21-4 202740-22-5 202740-23-6
 (photosensitizer; photoresists containing coumarins and titanocenes and their inks and photosensitive materials)

IT 202739-79-5P 202739-80-8P
 (photosensitizer; photoresists containing coumarins and titanocenes and their inks and photosensitive materials)

L24 ANSWER 27 OF 48 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1997:732348 HCAPLUS
 DOCUMENT NUMBER: 128:68505
 TITLE: Coumarin compound, photosensitizers containing and visible light-sensitive resin compositions, containing them, and their uses
 INVENTOR(S): Suzuki, Rihoko; Otsuji, Atsuo; Uragami, Tatsunobu; Takuma, Hirosuke
 PATENT ASSIGNEE(S): Mitsui Toatsu Chemicals, Inc., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 14 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

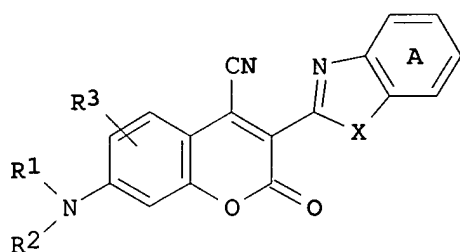
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 09291087	A2	19971111	JP 1996-105126	

1996
0425

PRIORITY APPLN. INFO.: JP 1996-105126

1996
0425

GI

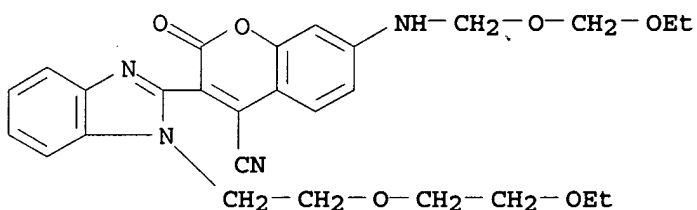


AB The coumarin compds. are represented by a structure I [R1-2 = (un)substituted alkyl; Q1[O(CH2)m]n; Q1 = H, (un)substituted alkyl, cycloalkyl; m, n = 1-5; NR1R2 may be a ring; R3 = H, halo, (un)substituted alkyl, halo, alkoxy, aryloxy, alkoxyalkoxy, alkylthio, arylthio, SO2H; X = O, S, NH, NR4; ring A may be substituted; R4 = (un)substituted alkyl, polyether, hydroxypolyether]. Also claimed are photosensitizers containing I, visible light-sensitive compns. containing the photosensitizers, inks for visible light-sensitive materials containing the compns. and solvents, and visible light-sensitive materials comprising a substrate and the compns. I have good solubility in solvents, thus providing a smooth uniform coating process film on a substrate, and are useful for **resists** sensitive to Ar laser radiation and YAG laser radiation and for electrodeposition coating process.

IT **200293-35-2DP**, N-alkyl amino derivs. **200293-40-9P**
(prepared as photosensitizers for visible light-sensitive **resists**)

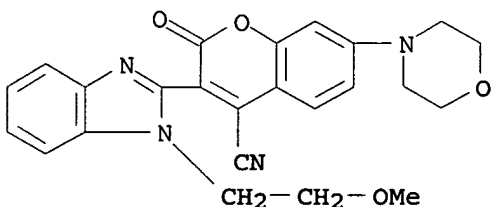
RN 200293-35-2 HCAPLUS

CN 2H-1-Benzopyran-4-carbonitrile, 3-[1-[2-(2-ethoxyethoxy)ethyl]-1H-benzimidazol-2-yl]-7-[[ethoxymethoxy)methyl]amino]-2-oxo- (9CI)
(CA INDEX NAME)



RN 200293-40-9 HCAPLUS

CN 2H-1-Benzopyran-4-carbonitrile, 3-[1-(2-methoxyethyl)-1H-benzimidazol-2-yl]-7-(4-morpholinyl)-2-oxo- (9CI) (CA INDEX NAME)



IC ICM C07D405-04
ICS C07D413-04; C07D417-04; C09D007-12; C09D011-02; C09K003-00;
G03F007-031; C07D405-04; C07D235-12; C07D311-16; C07D263-56;
C07D277-66

CC 74-5 (Radiation Chemistry, Photochemistry, and
Photographic and Other Reprographic Processes)

ST coumarin deriv prepn **resist** photosensitizer; visible
light **resist** coumarin deriv prepn; aminocoumarin deriv
prepn visible light **resist**

IT **Photoresists**
(containing aminocoumarin derivative as photosensitizer)

IT Photosensitizers (pharmaceutical)
(containing aminocoumarin derivs. for visible light-sensitive
resist)

IT Electrodeposition
(using **photoresist** containing aminocoumarin derivative as
photosensitizer)

IT 200293-18-1P 200293-20-5P 200293-21-6P 200293-22-7P
200293-23-8P 200293-24-9P 200293-25-0P 200293-26-1P
200293-27-2P 200293-28-3P 200293-29-4P 200293-30-7P
200293-31-8P 200293-32-9P 200293-33-0P 200293-34-1P
200293-35-2DP, N-alkyl amino derivs. 200293-36-3P
200293-37-4P 200293-38-5P 200293-39-6P **200293-40-9P**
(prepared as photosensitizers for visible light-sensitive
resists)

IT 200293-15-8P 200293-16-9P 200293-17-0P
(prepared for preparation of aminocoumarin derivs. as photosensitizers
for visible light-sensitive **resists**)

IT 56278-50-3, 2-Benzothiazolylacetonitrile 136803-42-4
200293-19-2
(preparation of aminocoumarin derivs. as photosensitizers for
visible light-sensitive **resists**)

L24 ANSWER 28 OF 48 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1997:380149 HCAPLUS

DOCUMENT NUMBER: 127:89735

TITLE: Synthesis and photoinduced electron transfer
processes in Ru(II) (bpy)₂/Os(III) (bpy)₂-based
triad complexes containing functionalized
diimide ligands

AUTHOR(S): Hossain, Md. Delower; Haga, Masa-aki;
Monjushiro, Hideaki; Gholamkhass, Bobak;
Nozaki, Koichi; Ohno, Takeshi

CORPORATE SOURCE: Coordination Chemistry Laboratory, Inst.
Molecular Science, Okazaki, 444, Japan

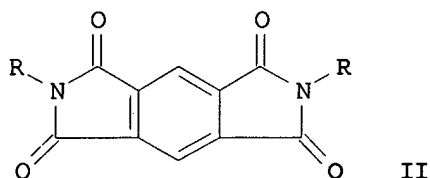
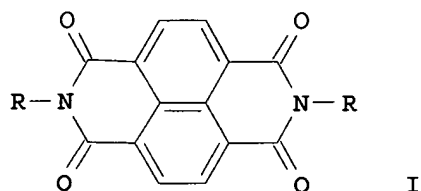
SOURCE: Chemistry Letters (1997), (6), 573-574
CODEN: CMLTAG; ISSN: 0366-7022

PUBLISHER: Chemical Society of Japan

DOCUMENT TYPE: Journal

LANGUAGE: English

GI

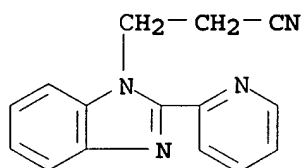


AB [(Bpy)₂Ru(μ-L)M(bpy)₂]²⁺ (III) (L = I and II (R = 3-(2-(2-pyridyl)benzimidazol-1-yl)propyl); M = Os(II), Ru(II)) were prepared and characterized by cyclic voltammetry. The charge separated (CS) state was efficiently formed as a result of stepwise electron transfer reactions in III (M = Os) triad system (efficiency >0.7). The rate of electron transfer and the charge separation yield were determined from picosecond time-resolved absorption spectra.

IT **34707-83-0P**
(for preparation of osmium-ruthenium and ruthenium-ruthenium pyridylbenzimidazolyldiimide dinuclear complexes)

RN 34707-83-0 HCAPLUS

CN 1H-Benzimidazole-1-propanenitrile, 2-(2-pyridinyl)- (9CI) (CA INDEX NAME)



CC 78-7 (Inorganic Chemicals and Reactions)

Section cross-reference(s): 72, 74

IT 14668-82-7P, Vinyl isocyanide **34707-83-0P** 191788-79-1P
(for preparation of osmium-ruthenium and ruthenium-ruthenium pyridylbenzimidazolyldiimide dinuclear complexes)

REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L24 ANSWER 29 OF 48 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1996:50832 HCAPLUS

DOCUMENT NUMBER: 124:148723

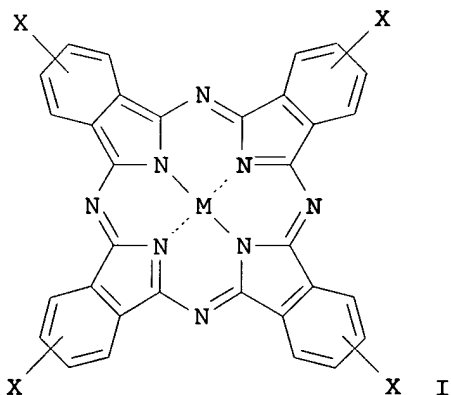
TITLE: Phthalocyanine compounds for optical materials and electric materials

INVENTOR(S): Yashiro, Tooru; Taniguchi, Masatoshi; Narizuka, Toshiro

PATENT ASSIGNEE(S): Ricoh Kk, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 07286107	A2	19951031	JP 1994-104497	1994 0420
PRIORITY APPLN. INFO.:			JP 1994-104497	1994 0420

OTHER SOURCE(S): MARPAT 124:148723
 GI



AB The compds. I (M = 2H, divalent metal, metal oxide, metal chloride; X = heterocyclyl containing ≥ 2 N or ≥ 1 N and ≥ 1 S on the ring; substitution positions of X = 2 or 3, 6 or 7, 10 or 11, and 14 or 15 or 1 or 4, 5 or 8, 9 or 12, and 13 or 16 positions on the phthalocyanine ring) are claimed. I show high solubility in various organic solvents at room temperature and are useful as dyes for optical recording and color filters, and for photoelec. conversion devices, electrophotog. photoreceptors, organic semiconductor devices, catalysts, gas sensors, etc. A mixture of benzimidazole, 4-nitrophthalonitrile, K₂CO₃, and DMSO was heated at 70° for 4 h to give 4-(1-benzimidazolyl)phthalonitrile. This was further treated with ZnCl₂ and DBU in pentanol at 100° for 10 h to give tetra[β -(1-benzimidazolyl)] zinc phthalocyanine (II) with maximum absorption peak 682 nm.

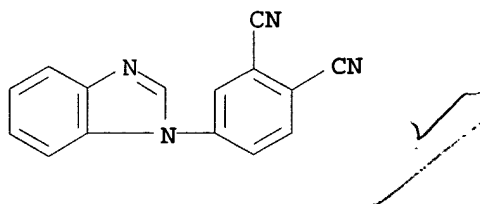
IT 173286-81-2P

(inermol. cyclocondensation of; preparation of phthalocyanine dyes having heterocyclyl group with high solubility in organic solvents)

RN 173286-81-2 HCAPLUS

CN 1,2-Benzenedicarbonitrile, 4-(1H-benzimidazol-1-yl)- (9CI) (CA

INDEX NAME)



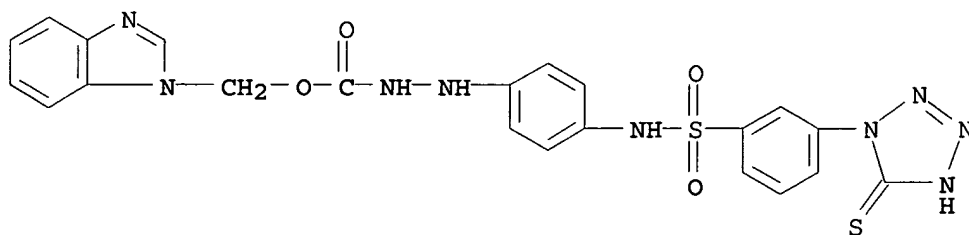
IC ICM C09B047-04
 CC 41-7 (Dyes, Organic Pigments, Fluorescent Brighteners, and
Photographic Sensitizers)
 Section cross-reference(s): 73, 74, 76
 IT 173286-81-2P
 (inermol. cyclocondensation of; preparation of phthalocyanine dyes
 having heterocyclyl group with high solubility in organic solvents)

L24 ANSWER 30 OF 48 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1995:680825 HCAPLUS
 DOCUMENT NUMBER: 123:70225
 TITLE: Silver halide photographic material and image
 formation
 INVENTOR(S): Sanpei, Takeshi
 PATENT ASSIGNEE(S): Konishiroku Photo Ind, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 51 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 07104426	A2	19950421	JP 1993-250708	1993 1006
JP 3362291	B2	20030107	JP 1993-250708	1993 1006

PRIORITY APPLN. INFO.: JP 1993-250708

OTHER SOURCE(S): MARPAT 123:70225
 AB In the title photog. material having ≥ 1 Ag halide emulsion
 layer and/or its adjacent layer containing a hydrazine derivative on 1
 side of a support and ≥ 1 hydrophilic colloid layer on the
 other side of the support, the hydrophilic colloid layer contains
 a ≥ 1 nucleating accelerator. Image formation is also
 claimed. The photog. material is stable and free of fog and black
 spots.
 IT 132773-86-5
 (redox compound contained in photog. material free of fog and
 black spot)
 RN 132773-86-5 HCAPLUS
 CN Hydrazinecarboxylic acid, 2-[4-[[[3-(2,5-dihydro-5-thioxo-1H-
 tetrazol-1-yl)phenyl]sulfonyl]amino]phenyl]-, (nitro-1H-
 benzimidazol-1-yl)methyl ester (9CI) (CA INDEX NAME)

D1-NO₂

IC ICM G03C001-76
 ICS G03C001-06; G03C001-295; G03C001-33; G03C001-34; G03C001-43;
 G03C005-29; G03C005-31
 CC 74-2 (Radiation Chemistry, Photochemistry, and
Photographic and Other Reprographic Processes)
 IT **132773-86-5** 133682-17-4 134282-51-2 152208-74-7
 164982-04-1
 (redox compound contained in photog. material free of fog and
 black spot)

L24 ANSWER 31 OF 48 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1995:498390 HCAPLUS

DOCUMENT NUMBER: 122:251982

TITLE: Black and white silver halide photographic
material with ultra-high contrast

INVENTOR(S): Fukawa, Junichi; Sanpei, Takeshi; Goto, Kenji

PATENT ASSIGNEE(S): Konishiroku Photo Ind, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 43 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 06347939	A2	19941222	JP 1993-138705	

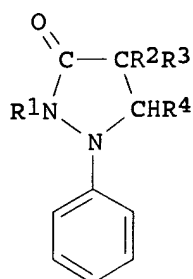
1993
0610

PRIORITY APPLN. INFO.: JP 1993-138705

1993
0610

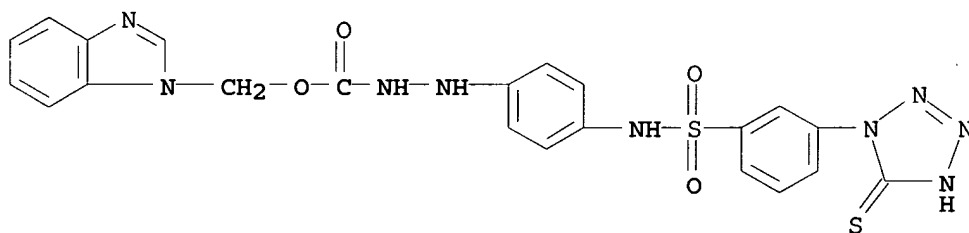
OTHER SOURCE(S): MARPAT 122:251982

GI



I

- AB The title material contains I (R1 = H, acetyl; R2-4 = H, alkyl), polyhydroxy-benzene compds., or aminophenol compds. in a hydrophilic colloidal layer(s).
- IT 132773-86-5
(black and white silver halide photog. material with ultra-high contrast)
- RN 132773-86-5 HCAPLUS
- CN Hydrazinecarboxylic acid, 2-[4-[[[3-(2,5-dihydro-5-thioxo-1H-tetrazol-1-yl)phenyl]sulfonyl]amino]phenyl]-, (nitro-1H-benzimidazol-1-yl)methyl ester (9CI) (CA INDEX NAME)

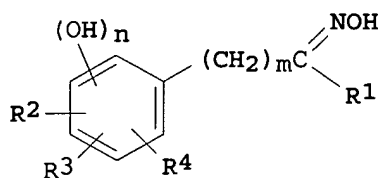
D1-NO₂

- IC ICM G03C001-34
ICS G03C001-06; G03C001-33; G03C001-42
- CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
- IT 92-43-3, 1-Phenyl-3-pyrazolidone 95-86-3, 2,4-DiAminophenol 103-14-0, p-Benzylaminophenol 120-80-9, 2-Hydroxyphenol, uses 121-79-9, n-Propyl 3,4,5-Trihydroxybenzoate 122-87-2, n-(4-Hydroxyphenyl)glycine 123-30-8, 4-Aminophenol 123-31-9, Hydroquinone, uses 149-91-7, Benzoic acid, 3,4,5-trihydroxy-, uses 150-75-4, N-Methyl-4-Aminophenol 611-24-5, N-Methyl-2-Aminophenol 824-46-4, 2-MethoxyHydroquinone 2525-05-5, 1,2-Benzenediol, 4-butyl- 2654-57-1, 1-Phenyl-4-methyl-3-pyrazolidone 2654-58-2, 1-Phenyl-4,4-dimethyl-3-pyrazolidone 2835-96-3, 2-Methyl-4-aminophenol 2835-99-6, 3-Methyl-4-Aminophenol 13047-13-7, 1-Phenyl-4-methyl-4-hydroxymethyl-3-pyrazolidone 49865-92-1 86475-37-8, 1-Phenyl-2-acetyl-4,4-dimethyl-3-pyrazolidone 92698-99-2, 1-Phenyl-4,4-di-n-propyl-3-pyrazolidone 132773-86-5 133805-77-3, 1,2,3-Benzenetriol, 5-methoxy- 134282-47-6 134282-51-2 146657-28-5 146657-30-9

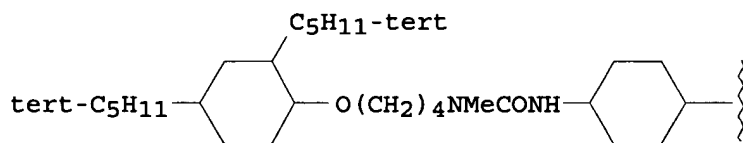
146657-31-0 152208-74-7 160744-90-1
(black and white silver halide photog. material with ultra-high contrast)

L24 ANSWER 32 OF 48 HCAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1995:275298 HCAPLUS
DOCUMENT NUMBER: 122:277984
TITLE: Silver halide photographic materials
INVENTOR(S): Yoshida, Kazuhiro
PATENT ASSIGNEE(S): Konishiroku Photo Ind, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 38 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

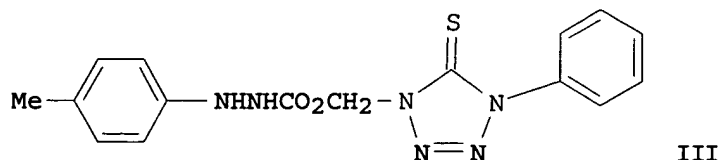
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 06242545	A2	19940902	JP 1993-49936	1993 0217
PRIORITY APPLN. INFO.:				1993 0217
OTHER SOURCE(S):				
GI				
MARPAT 122:277984				



I

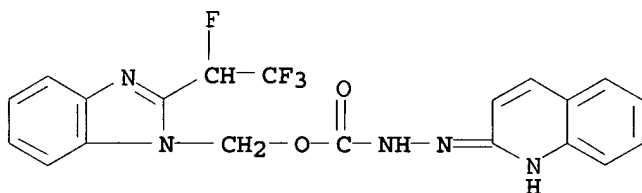


II



III

- AB In the title photog. materials comprising a support coated with ≥ 1 Ag halide emulsion layer, the gelatin content on ≥ 1 side with the layer is ≤ 3.0 g/m² and ≥ 1 layer contains a hydrazine derivative, a redox compound releasing a development restrainer by oxidation, and a compound I [R1 = H, alkyl, aryl, amino, OR5 (R5 = alkyl, aryl, saturated carbon ring residue); R2-4 = H, halo, alkyl, aryl, alkoxy, aryloxy, cyano, sulfo, carboxy, R2 and R3, R2 and R4, or R3 and R4 may form a ring; m = 0-3; n = 1-3]. The materials show high contrast, good dot controlling property, and storage stability, and are useful for printing platemaking. Thus, a PET film with a conductive layer and a protective layer on the back side was coated successively with a Ag(I, Br) gelatin emulsion layer containing II and o-HOC6H4CH:NOH, a 1st gelatin-based layer, a 2nd gelatin-based layer containing III, and a protective layer to give a photog. film.
- IT 161069-18-7
(photog. film containing hydrazine derivative and redox compound and oxime compound)
- RN 161069-18-7 HCAPLUS
- CN Hydrazinecarboxylic acid, 2-(2-quinoliny)-, [nitro-2-(1,2,2,2-tetrafluoroethyl)-1H-benzimidazol-1-yl]methyl ester (9CI) (CA INDEX NAME)

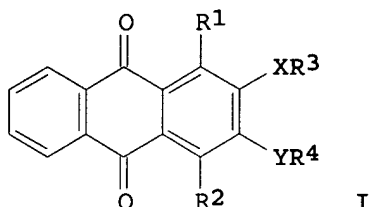
D1-NO₂

- IC ICM G03C001-34
ICS G03C001-047; G03C001-06; G03C001-43
- CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
- IT 94-67-7 1595-14-8 7470-09-9 134282-54-5 137215-47-5
138981-32-5 141303-86-8 146615-50-1 152971-97-6
154075-35-1 157761-46-1 160641-21-4 160816-94-4
160816-95-5 161069-18-7
(photog. film containing hydrazine derivative and redox compound and oxime compound)
- L24 ANSWER 33 OF 48 HCAPLUS COPYRIGHT 2006 ACS on STN
- ACCESSION NUMBER: 1994:422627 HCAPLUS
- DOCUMENT NUMBER: 121:22627
- TITLE: Thermal transfer sheet using sublimation dye
- INVENTOR(S): Eguchi, Hiroshi; Kafuku, Masaaki; Takiguchi, Ryohei
- PATENT ASSIGNEE(S): Dai Nippon Printing Co., Ltd., Japan
- SOURCE: Jpn. Kokai Tokkyo Koho, 34 pp.
CODEN: JKXXAF
- DOCUMENT TYPE: Patent
- LANGUAGE: Japanese
- FAMILY ACC. NUM. COUNT: 1

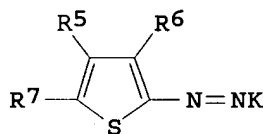
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 05124364	A2	19930521	JP 1991-310199	1991 1030
PRIORITY APPLN. INFO.:			JP 1991-310199	1991 1030

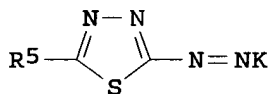
OTHER SOURCE(S): MARPAT 121:22627
GI



I



II



III

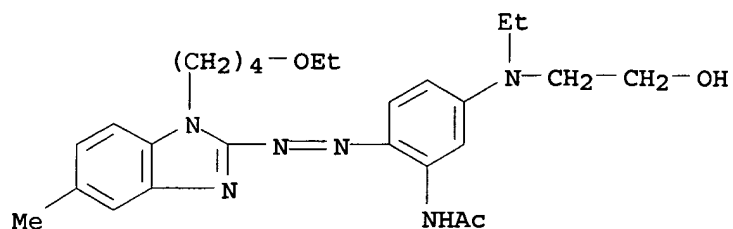
AB The title thermal transfer sheet comprises a sheet substrate and a dye layer on 1 side of the substrate, and the magenta dye contained is a mixture of ≥ 1 anthraquinone dye I [(1) X = S, O, SO₂; R₃ = (cyclo)alkyl, aryl, allyl; or (2) X = chemical bond; R₃ = halo, CN when R₁ = NH₂, R₂ = OH and YR₄ = H; (3) X = NH; R₃ as defined above; YR₄ = H when R₁ = R₂ = OH; and (4) X, R₃ as defined above; Y = X; R₄ = R₃ when R₁ = R₂ = NH₂], and ≥ 1 aromatic or aromatic heterocyclic azo dye from eg. II, III [R₅₋₇ = H, halo, NO₂, CN, (substituted)amino, (cyclo)alkyl, aryl, allyl, aralkyl, alkoxy, aryloxy, arylthio, alkoxycarbonyl, alkoxyalkyl, alkoxycarbonylalkyl, acylamino, sulfonylamino, ureido, carbamoyl, sulfamoyl, acyl, aromatic heterocyclyl; K = p-dialkylaminophenol, p-dialkylaminopyridino]. Full color images with superior high-d., sharpness, fastness and **photoresistance** can be obtained.

IT 155525-14-7

(dye, thermal transfer sheet using)

RN 155525-14-7 HCAPLUS

CN Acetamide, N-[2-[[1-(4-ethoxybutyl)-5-methyl-1H-benzimidazol-2-yl]azo]-5-[ethyl(2-hydroxyethyl)amino]phenyl] - (9CI) (CA INDEX NAME)



IC ICM B41M005-38
 CC 74-7 (Radiation Chemistry, Photochemistry, and
Photographic and Other Reprographic Processes)
 IT 116-82-5 2478-67-3 6408-72-6 16517-79-6 17418-58-5
 20210-72-4 33976-57-7 38919-98-1 68385-96-6 69465-00-5
 71009-25-1 79609-68-0 83356-28-9 91576-02-2 107689-09-8
 112940-71-3 119308-07-5 120412-48-8 120412-59-1
 135198-96-8 148331-78-6 154341-02-3 154341-03-4
 154341-04-5 154341-05-6 154341-07-8 154341-08-9
 154341-10-3 154341-11-4 154341-12-5 154341-13-6
 154341-16-9 154341-17-0 154341-18-1 154341-19-2
 155524-20-2 155524-21-3 155524-22-4 155524-23-5
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 155525-32-9 155525-33-0 155525-34-1 155525-35-2
 155525-36-3 155525-37-4 155525-38-5 155525-39-6
 155525-40-9 155525-41-0
 (dye, thermal transfer sheet using)

L24 ANSWER 34 OF 48 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1994:148829 HCAPLUS

DOCUMENT NUMBER: 120:148829

TITLE: Silver halide photographic material containing
 development-inhibitor-releasing coupler

INVENTOR(S): Sanpei, Takeshi
 PATENT ASSIGNEE(S): Konishiroku Photo Ind, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 44 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 05241264	A2	19930921	JP 1992-39673	1992 0226
JP 2995360	B2	19991227	JP 1992-39673	1992 0226

PRIORITY APPLN. INFO.: JP 1992-39673

OTHER SOURCE(S): MARPAT 120:148829

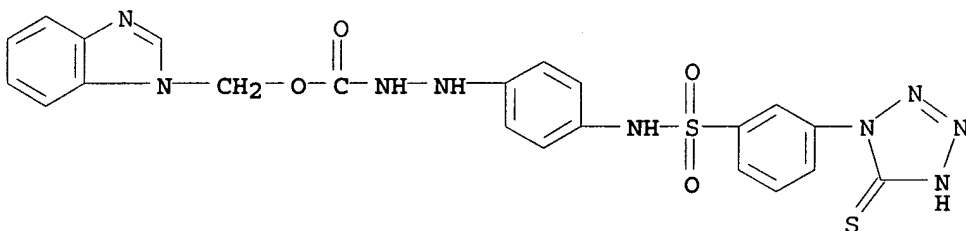
AB The material has a hydrophilic colloid layer containing a redox DIR compound and a photog. emulsion layer containing a hydrazine derivative and the total gelatin content at the emulsion side is ≤ 3.5 g/m². The material gives sharp gradation image with low black pepper generation.

IT 132773-86-5

(photog. DIR coupler)

RN 132773-86-5 HCAPLUS

CN Hydrazinecarboxylic acid, 2-[4-[[[3-(2,5-dihydro-5-thioxo-1H-tetrazol-1-yl)phenyl]sulfonyl]amino]phenyl]-, (nitro-1H-benzimidazol-1-yl)methyl ester (9CI) (CA INDEX NAME)



D1-NO₂

IC ICM G03C001-06

ICS G03C001-295; G03C001-34; G03C001-43

CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT 132773-86-5 134282-47-6 134282-51-2 152208-74-7
 (photog. DIR coupler)

L24 ANSWER 35 OF 48 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1992:265487 HCAPLUS

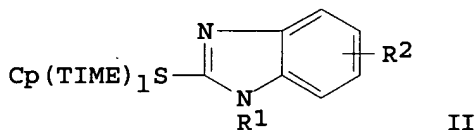
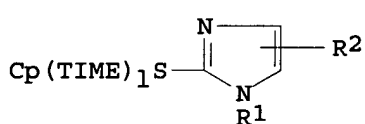
DOCUMENT NUMBER: 116:265487

TITLE: Silver halide photographic material containing development inhibitor-releasing coupler

INVENTOR(S): Sugita, Shuichi; Kida, Shuji
 PATENT ASSIGNEE(S): Konica Co., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 14 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 04044036	A2	19920213	JP 1990-153150	1990 0612
PRIORITY APPLN. INFO.:			JP 1990-153150	1990 0612

GI



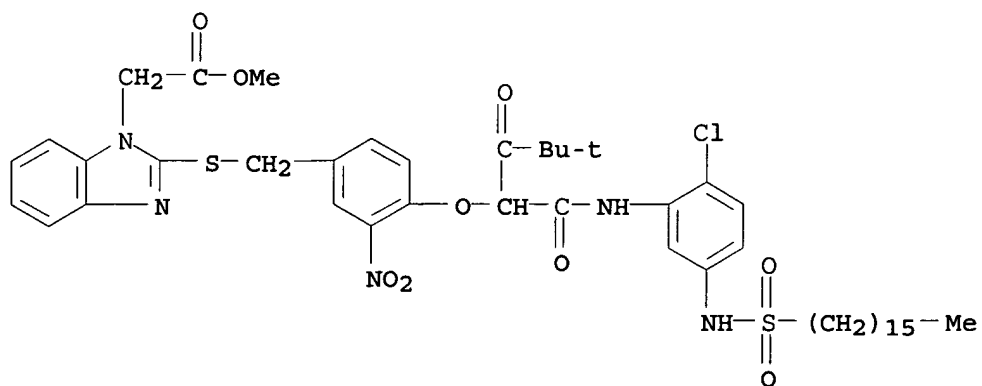
AB The title material contains a coupler represented by general structures I and II (Cp = coupler residue which can undergo a coupling reaction with an oxidized color developing agent; TIME = timing group linked to Cp at the coupling site; l = 0 or 1; R1 = group represented by XY, or substituent other than group represented by XY; R2 = H, R1; ≥1 of R1 and R2 is a group represented by XY; X = linking group; Y = hydrolyzable group). The above-mentioned coupler can release a development inhibitor upon reaction with an oxidized developing agent. The title material provides good sharpness and excellent color reproduction

IT **141720-28-7P**

(preparation of, as photog. development inhibitor-releasing coupler)

RN 141720-28-7 HCAPLUS

CN 1H-Benzimidazole-1-acetic acid, 2-[[[4-[1-[[[2-chloro-5-[(hexadecylsulfonyl)amino]phenyl]amino]carbonyl]-3,3-dimethyl-2-oxobutoxy]-3-nitrophenyl]methyl]thio]-, methyl ester (9CI) (CA INDEX NAME)



IC ICM G03C007-305
 ICS G03C007-32
 CC 74-2 (Radiation Chemistry, Photochemistry, and
Photographic and Other Reprographic Processes)
 Section cross-reference(s): 41
 IT 141720-28-7P 141720-29-8P
 (preparation of, as photog. development inhibitor-releasing coupler)

L24 ANSWER 36 OF 48 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1992:72139 HCAPLUS
 DOCUMENT NUMBER: 116:72139
 TITLE: Silver halide photographic material
 INVENTOR(S): Inoue, Nobuaki; Okamura, Hisashi
 PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 35 pp.
 CODEN: JKXXAF

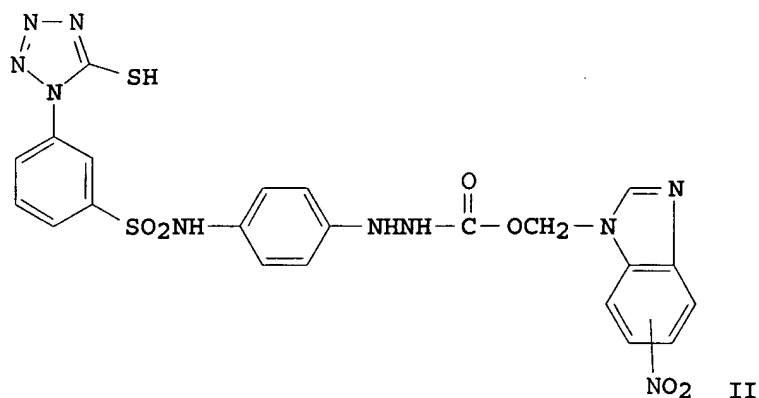
DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 03100646	A2	19910425	JP 1989-239277	1989 0914

PRIORITY APPLN. INFO.: JP 1989-239277

1989
0914

GI



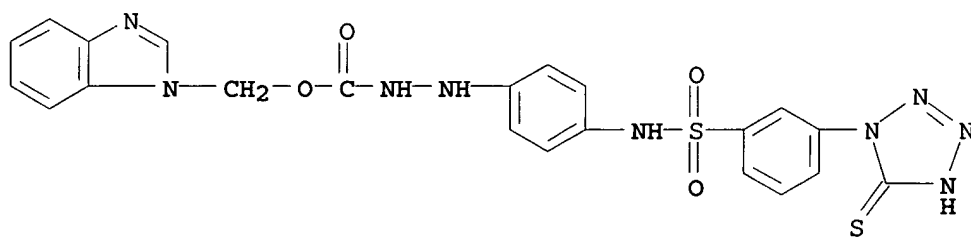
AB In the title material comprising ≥ 2 kinds of monodispersed Ag halide emulsions on a support, the Ag halide emulsions or other hydrophilic colloid layers contain hydrazine derivs. and RYNHLNHNHCO(Time)tPUG (I) [R = an aliphatic group, aryl, heterocyclyl; L = a divalent organic group; Time = a timing group; t = 0 or 1; PUG = a photog. useful group; Y = SO₂, Y1P(:O)Y1R; Y1 = O, NH, etc.]. The average size of Ag halide grains in the emulsions is 0.5 μm or less. The title material provides high-quality images. II is an example of I.

IT 132773-86-5

(photog. emulsion containing)

RN 132773-86-5 HCAPLUS

CN Hydrazinecarboxylic acid, 2-[4-[[[3-(2,5-dihydro-5-thioxo-1H-tetrazol-1-yl)phenyl]sulfonyl]amino]phenyl]-, (nitro-1H-benzimidazol-1-yl)methyl ester (9CI) (CA INDEX NAME)



D1-NO₂

IC ICM G03C001-06

CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT 86551-61-3 114750-35-5 132773-86-5 134282-55-6
138502-88-2 138502-89-3 138502-90-6 138502-91-7
138502-92-8 138551-67-4
(photog. emulsion containing)

L24 ANSWER 37 OF 48 HCAPLUS COPYRIGHT 2006 ACS on STN

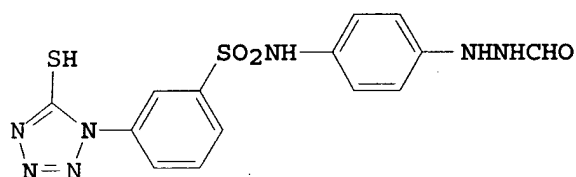
ACCESSION NUMBER: 1992:48775 HCAPLUS

DOCUMENT NUMBER: 116:48775

TITLE: Silver halide photographic material
 INVENTOR(S): Inoue, Nobuaki; Inoe, Nobuaki; Okada, Hisashi
 PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 59 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 5
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 03087733	A2	19910412	JP 1990-45234	1990 0226
PRIORITY APPLN. INFO.:			JP 1989-144721	A1 1989 0607

GI



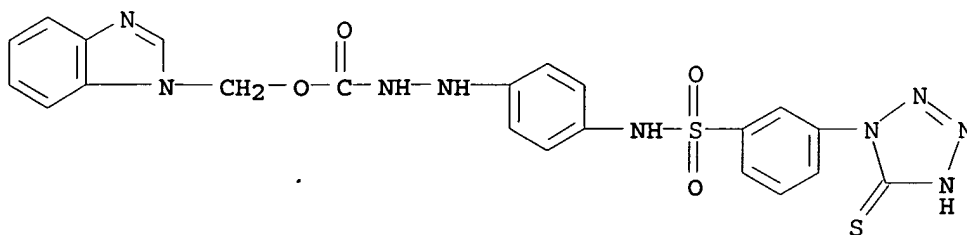
AB In the title material comprising one or more photosensitive Ag halide emulsion layers on a support, the emulsion layers or other hydrophilic colloid layers contain one or more hydrazine derivs. and one or more redox compds. which release development inhibitors upon oxidation. The photosensitive emulsion layers in the title material consists of monodispersed emulsions. I is an example of the above-mentioned hydrazines. The title material provides high-quality images.

IT 132773-86-5

(silver halide photog. emulsion containing)

RN 132773-86-5 HCAPLUS

CN Hydrazinecarboxylic acid, 2-[4-[[[3-(2,5-dihydro-5-thioxo-1H-tetrazol-1-yl)phenyl]sulfonyl]amino]phenyl]-, (nitro-1H-benzimidazol-1-yl)methyl ester (9CI) (CA INDEX NAME)

D1-NO₂

IC ICM G03C001-06
 CC 74-2 (Radiation Chemistry, Photochemistry, and
Photographic and Other Reprographic Processes)
 IT 86551-61-3 114750-35-5 **132773-86-5** 138499-95-3
 138499-96-4
 (silver halide photog. emulsion containing)

L24 ANSWER 38 OF 48 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1992:22874 HCAPLUS
 DOCUMENT NUMBER: 116:22874
 TITLE: Dye-donor elements comprising methine or
 azomethine dyes for use in thermal dye
 transfer
 INVENTOR(S): Vanmaele, Luc Jerome
 PATENT ASSIGNEE(S): Agfa-Gevaert N. V., Belg.
 SOURCE: Eur. Pat. Appl., 23 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 444327	A1	19910904	EP 1990-200483	1990 0301
EP 444327	B1	19940921		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE				
<u>US 5116806</u>	A	19920526	US 1991-654684	1991 0213
JP 04216994	A2	19920807	JP 1991-56049	1991 0226
PRIORITY APPLN. INFO.:			EP 1990-200483	A 1990 0301

OTHER SOURCE(S): MARPAT 116:22874
 GI For diagram(s), see printed CA Issue.
 AB Thermal-transfer printing elements consist of supports, binders,
 and dyes I [ring A is aromatic or heterocyclic, and may be
 substituted; X = NZ1, NZ2, NN:Z2, CR1R2; Y = O, S, NR3; R1, R2 =

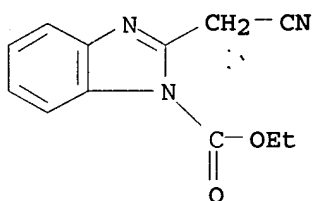
H, (un)substituted alkyl, cycloalkyl, aryl, alkenyl, alkynyl, or heterocyclyl, CN, halogen, SO₂R₄, COR₄, CSR₄, POR₄R₅, or CR₁R₂ is a ring; R₃ = H, (un)substituted alkyl, cycloalkyl, or aryl, SO₂R₄, COR₄, CSR₄, POR₄R₅; R₄, R₅ = (un)substituted alkyl, cycloalkyl, aryl, alkenyl, aralkyl, alkoxy, aryloxy, alkylthio, arylthio, amino, or heterocyclyl, or PR₄R₅ is a 5- or 6-membered ring; Z₁ = p-substituted aryl; Z₂ = (un)substituted heterocyclyl], the synthesis of which is described. Mixing 2-(cyanomethyl)benzimidazole in MeOH with 1.1 equiv p-Et₂NC₆H₄NH₂.HCl, adding aqueous NaCO₃, treating with iodine in MeOH, and filtering gave I (A is benzo, X = NC₆H₄NEt₂-4, Y = NH) (II), λ_{max} (MeOH) 495 nm. A donor element containing a layer of 50 parts II in 50 parts cellulose acetate butyrate was placed in contact with a receiving element and put through a color video printer to give images with maximum color d. (RD 919 densitometer, status A) 140.

IT 20923-18-6

(condensation of, with dimethylpyranone)

RN 20923-18-6 HCAPLUS

CN 1H-Benzimidazole-1-carboxylic acid, 2-(cyanomethyl)-, ethyl ester (9CI) (CA INDEX NAME)

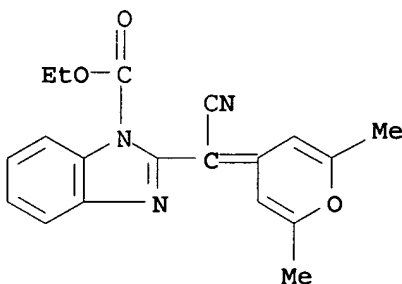


IT 138073-99-1P 138101-61-8P

(preparation of, as dye for thermal-transfer printing)

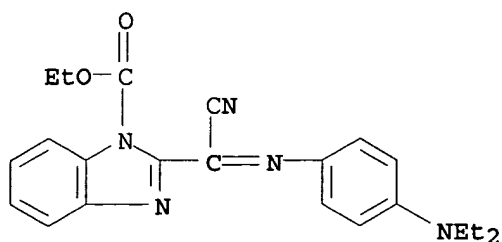
RN 138073-99-1 HCAPLUS

CN 1H-Benzimidazole-1-carboxylic acid, 2-[cyano(2,6-dimethyl-4H-pyran-4-ylidene)methyl]-, ethyl ester (9CI) (CA INDEX NAME)



RN 138101-61-8 HCAPLUS

CN 1H-Benzimidazole-1-carboxylic acid, 2-[cyano[[4-(diethylamino)phenyl]imino]methyl]-, ethyl ester (9CI) (CA INDEX NAME)

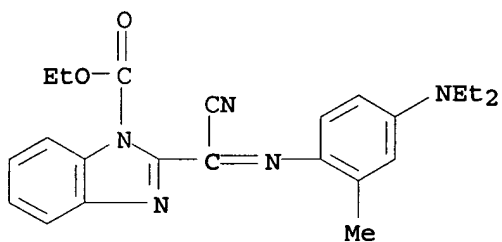


IT 138073-86-6P 138073-95-7P 138073-96-8P
138101-60-7P

(preparation of, for donor element for three-color transfer printing)

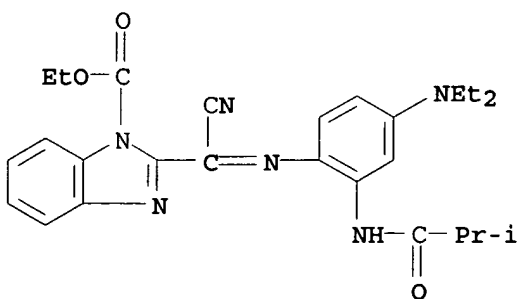
RN 138073-86-6 HCAPLUS

CN 1H-Benzimidazole-1-carboxylic acid, 2-[cyano[[4-(diethylamino)-2-methylphenyl]imino]methyl]-, ethyl ester (9CI) (CA INDEX NAME)



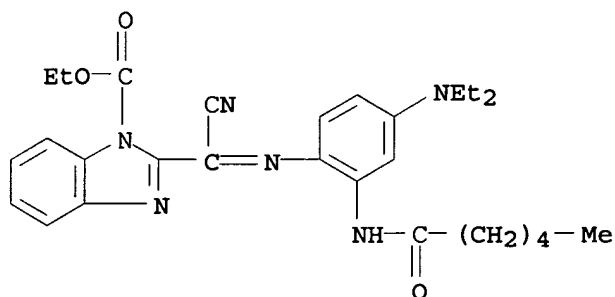
RN 138073-95-7 HCAPLUS

CN 1H-Benzimidazole-1-carboxylic acid, 2-[cyano[[4-(diethylamino)-2-[(2-methyl-1-oxopropyl)amino]phenyl]imino]methyl]-, ethyl ester (9CI) (CA INDEX NAME)

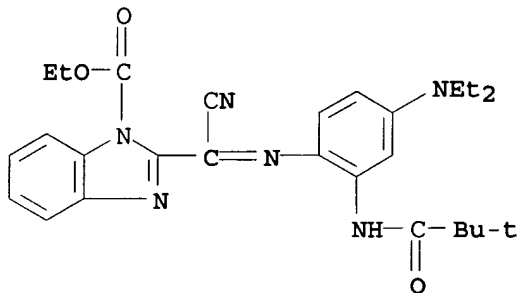


RN 138073-96-8 HCAPLUS

CN 1H-Benzimidazole-1-carboxylic acid, 2-[cyano[[4-(diethylamino)-2-[(1-oxohexyl)amino]phenyl]imino]methyl]-, ethyl ester (9CI) (CA INDEX NAME)



RN 138101-60-7 HCAPLUS
 CN 1H-Benzimidazole-1-carboxylic acid, 2-[cyano[[4-(diethylamino)-2-[(2,2-dimethyl-1-oxopropyl)aminophenyl]imino]methyl]-, ethyl ester (9CI) (CA INDEX NAME)



IC ICM B41M005-38
 CC 41-3 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)
 Section cross-reference(s): 74
 IT 20923-18-6
 (condensation of, with dimethylpyranone)
 IT 51553-32-3P 57319-74-1P 138073-98-0P 138073-99-1P
 138074-00-7P 138074-05-2P 138074-06-3P 138074-07-4P
 138074-09-6P 138074-12-1P 138074-13-2P 138101-61-8P
 138101-62-9P
 (preparation of, as dye for thermal-transfer printing)
 IT 138073-81-1P 138073-82-2P 138073-83-3P 138073-84-4P
 138073-85-5P 138073-86-6P 138073-87-7P 138073-88-8P
 138073-89-9P 138073-90-2P 138073-91-3P 138073-92-4P
 138073-93-5P 138073-94-6P 138073-95-7P
 138073-96-8P 138073-97-9P 138101-59-4P
 138101-60-7P
 (preparation of, for donor element for three-color transfer printing)

L24 ANSWER 39 OF 48 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1992:13197 HCAPLUS
 DOCUMENT NUMBER: 116:13197
 TITLE: Ultrahigh-contrast silver halide photographic materials
 INVENTOR(S): Kato, Kazunobu; Okada, Hisashi
 PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 43 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 02304433	A2	19901218	JP 1989-125385	1989 0518

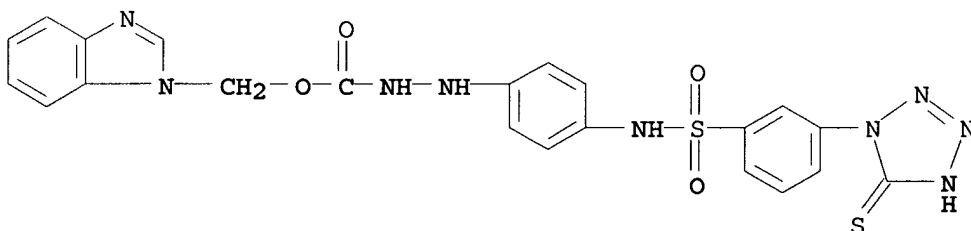
PRIORITY APPLN. INFO.: JP 1989-125385
 1989
 0518

AB In the title material having on a support gelatin-containing hydrophilic colloidal layers, the hydrophilic colloidal layers have fine polymer particles containing a hydrazine derivative and the hydrophilic colloidal layers and/or the other hydrophilic colloidal layers contain a redox compound which releases a development inhibitor upon oxidation

IT 132773-86-5
 (ultrahigh-contrast silver halide photog. materials containing)

RN 132773-86-5 HCAPLUS

CN Hydrazinecarboxylic acid, 2-[4-[[[3-(2,5-dihydro-5-thioxo-1H-tetrazol-1-yl)phenyl]sulfonyl]amino]phenyl]-, (nitro-1H-benzimidazol-1-yl)methyl ester (9CI) (CA INDEX NAME)



D1-NO₂

IC ICM G03C001-06
 ICS G03C001-04

CC 74-2 (Radiation Chemistry, Photochemistry, and
Photographic and Other Reprographic Processes)

IT 105754-54-9 128811-06-3 132773-86-5 136271-71-1
 136322-65-1 137757-22-3 137757-23-4

(ultrahigh-contrast silver halide photog. materials containing)

L24 ANSWER 40 OF 48 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1991:691047 HCAPLUS

DOCUMENT NUMBER: 115:291047

TITLE: Silver halide photographic material

INVENTOR(S): Goto, Takahiro; Kato, Kazunobu

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 43 pp.

DOCUMENT TYPE: CODEN: JKXXAF
 LANGUAGE: Patent
 FAMILY ACC. NUM. COUNT: Japanese
 1
 PATENT INFORMATION:

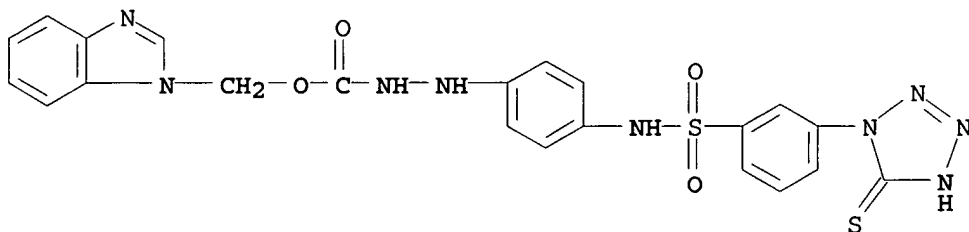
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 03103843	A2	19910430	JP 1989-242442	1989 0919
JP 2881221	B2	19990412		
US 5155006	A	19921013	US 1990-584668	1990 0919
PRIORITY APPLN. INFO.:			JP 1989-242442	A 1989 0919

AB The title material comprises: (a) at least one photosensitive Ag halide emulsion layer containing a hydrazine derivative; (b) a hydrophilic colloid layer (other than the above-mentioned photosensitive layer) containing a redox compound which releases a development inhibitor upon oxidation; and (c) a developing agent in the above-mentioned Ag halide emulsion layer or at least one of the hydrophilic colloid layers. The title material shows high contrast.

IT 132773-86-5
 (photog. material containing)

RN 132773-86-5 HCAPLUS

CN Hydrazinecarboxylic acid, 2-[4-[[[3-(2,5-dihydro-5-thioxo-1H-tetrazol-1-yl)phenyl]sulfonyl]amino]phenyl]-, (nitro-1H-benzimidazol-1-yl)methyl ester (9CI) (CA INDEX NAME)



D1-NO₂

IC ICM G03C001-06

CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT 92-43-3, 1-Phenyl-3-pyrazolidone 123-31-9, Hydroquinone, uses and miscellaneous 86551-61-3 105754-54-9 132773-86-5
 133682-17-4 133682-19-6 134282-47-6 134282-53-4
 134293-25-7 137811-39-3 137814-39-2
 (photog. material containing)

L24 ANSWER 41 OF 48 HCAPLUS COPYRIGHT 2006 ACS on STN

USHA SHRESTHA EIC 1700 REM 4B28

ACCESSION NUMBER: 1991:570803 HCAPLUS
 DOCUMENT NUMBER: 115:170803
 TITLE: High contrast silver halide photographic films
 INVENTOR(S): Kato, Kazunobu; Okamura, Hisashi
 PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 39 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 5
 PATENT INFORMATION:

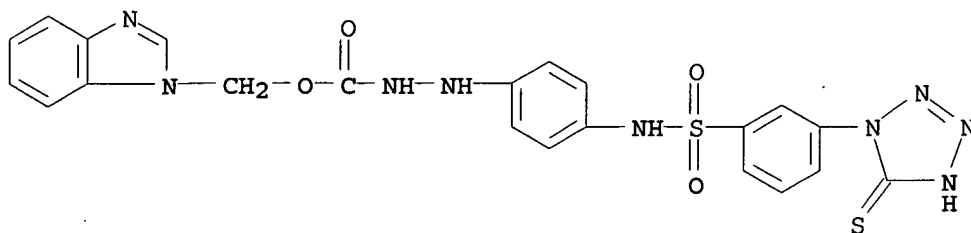
PATENT NO. -----	KIND ----	DATE -----	APPLICATION NO. -----	DATE
JP 02285340	A2	19901122	JP 1989-108216	1989 0427
US 5187042	A	19930216	US 1990-515882	1990 0427
PRIORITY APPLN. INFO.:			JP 1989-108216	A 1989 0427
			JP 1989-109981	A 1989 0428
			JP 1989-113093	A 1989 0502
			JP 1989-129226	A 1989 0523
			JP 1989-144721	A 1989 0607

AB The title material, suited for use in lith film, comprises
 ≥1 Ag halide emulsion layer(s) containing hydrazine deriv(s).0
 a redox compound releasing a development inhibitor upon oxidation, and
 a A-B copolymer [A = ethylenic unsatd. monomer having acid
 group(s); B = unsat. cross linking monomer having ≥2
 ethylenic unsatd. groups.

IT 132773-86-5
 (development inhibitor-releasing redox compound, high contrast
 lith film containing)

RN 132773-86-5 HCAPLUS

CN Hydrazinecarboxylic acid, 2-[4-[[[3-(2,5-dihydro-5-thioxo-1H-
 tetrazol-1-yl)phenyl]sulfonyl]amino]phenyl]-, (nitro-1H-
 benzimidazol-1-yl)methyl ester (9CI) (CA INDEX NAME)

D1-NO₂

IC ICM G03C001-04
 ICS G03C001-06
 CC 74-2 (Radiation Chemistry, Photochemistry, and
Photographic and Other Reprographic Processes)
 IT 132773-86-5 133682-17-4 133682-18-5 134282-53-4
 136271-69-7 136271-70-0 136271-71-1
 (development inhibitor-releasing redox compound, high contrast
 lith film containing)

L24 ANSWER 42 OF 48 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1991:482126 HCAPLUS
 DOCUMENT NUMBER: 115:82126
 TITLE: Silver halide photographic materials
 INVENTOR(S): Kato, Kazunobu; Okada, Hisashi
 PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 40 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 5
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 02287532	A2	19901127	JP 1989-109981	1989 0428
JP 2889960	B2	19990510		
US 5187042	A	19930216	US 1990-515882	1990 0427
PRIORITY APPLN. INFO.:			JP 1989-108216	A 1989 0427
			JP 1989-109981	A 1989 0428
			JP 1989-113093	A 1989 0502
			JP 1989-129226	A

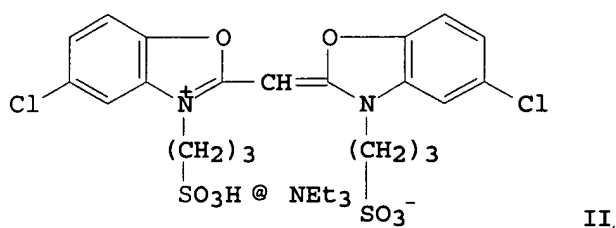
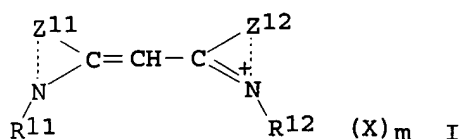
1989
0523

JP 1989-144721

A

1989
0607

GI



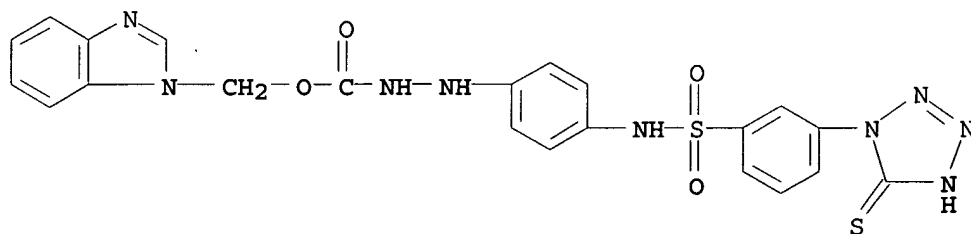
AB The title materials comprise: a) one or more photosensitive silver halide emulsion layers containing a hydrazine derivative; b) a redox compound which releases a development inhibitor upon oxidation; and c) a benzoxazole derivative I (Z11, Z12 = non-metallic atoms forming benzoxazole, benzothiazole ring, etc.; R11, R12 = alkyl, aralkyl, at least one of them has an acidic group; X = counter ion; m = 0 or 1). Benzoxazole II is an example of I.

IT 132773-86-5

(photog. material containing)

RN 132773-86-5 HCAPLUS

CN Hydrazinecarboxylic acid, 2-[4-[[[3-(2,5-dihydro-5-thioxo-1H-tetrazol-1-yl)phenyl]sulfonyl]amino]phenyl]-, (nitro-1H-benzimidazol-1-yl)methyl ester (9CI) (CA INDEX NAME)



D1-NO2

IC ICM G03C001-06

CC 74-2 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT 51588-61-5 86551-61-3 90895-26-4 105754-54-9 121216-75-9

USHA SHRESTHA EIC 1700 REM 4B28

121216-77-1 122558-45-6 127890-98-6 132773-86-5
 133682-17-4 134282-47-6 134282-48-7 134282-52-3
 134282-53-4 134282-54-5 135350-58-2 135350-59-3
 135350-60-6 135350-61-7 135377-54-7
 (photog. material containing)

L24 ANSWER 43 OF 48 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1991:482098 HCAPLUS

DOCUMENT NUMBER: 115:82098

TITLE: Silver halide photographic materials

INVENTOR(S): Katoh, Kazunobu; Yagigara, Morio; Goto, Takahiro

PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan

SOURCE: Eur. Pat. Appl., 79 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

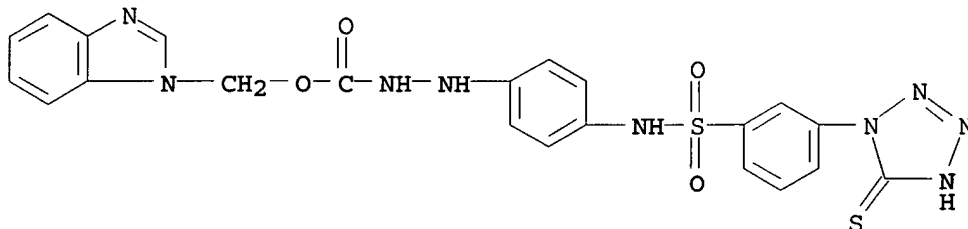
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 395069	A2	19901031	EP 1990-107991	1990 0426
EP 395069	A3	19910116		
EP 395069	B1	19960710		
R: DE, GB				
JP 03174143	A2	19910729	JP 1990-91570	1990 0406
JP 03039952	A2	19910220	JP 1990-93484	1990 0409
US 5395732	A	19950307	US 1992-893945	1992 0604
PRIORITY APPLN. INFO.:			JP 1989-108215	A 1989 0427
			JP 1989-240967	A 1989 0918
			US 1990-515994	B1 1990 0427

OTHER SOURCE(S): MARPAT 115:82098

AB A Ag halide photog. material is disclosed, which comprises: (a) ≥ 1 light-sensitive Ag halide emulsion layer containing a hydrazine derivative; and (b) a hydrophilic colloid layer which is different from the light-sensitive silver halide emulsion layer and contains a redox compound capable of releasing a development inhibitor as a result of oxidation. The material has superhigh contrast, and is useful in photomech. processes.

IT 132773-86-5
 (photog. emulsion containing)

RN 132773-86-5 HCAPLUS
 CN Hydrazinecarboxylic acid, 2-[4-[[[3-(2,5-dihydro-5-thioxo-1H-tetrazol-1-yl)phenyl]sulfonyl]amino]phenyl]-, (nitro-1H-benzimidazol-1-yl)methyl ester (9CI) (CA INDEX NAME)



D1-NO₂

IC ICM G03C001-10
 ICS G03C007-305; G03C001-46; G03C001-76
 CC 74-2 (Radiation Chemistry, Photochemistry, and
Photographic and Other Reprographic Processes)
 IT 86551-61-3 105754-54-9 114750-35-5 **132773-86-5**
 133682-17-4 133682-18-5 134282-46-5 134282-47-6
 134282-48-7 134282-49-8 134282-50-1 134282-51-2
 134282-52-3 134282-53-4 134282-54-5 134282-55-6
 134293-25-7

(photog. emulsion containing)

L24 ANSWER 44 OF 48 HCAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1991:217975 HCAPLUS
 DOCUMENT NUMBER: 114:217975
 TITLE: Silver halide photographic material containing
 compound releasing photographically useful
 group
 INVENTOR(S): Okamura, Hisashi; Okada, Hisashi; Yagihara,
 Morio; Katoh, Kazunobu; Mihayashi, Keiji
 PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
 SOURCE: Eur. Pat. Appl., 94 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 393720	A2	19901024	EP 1990-107625	1990 0423
EP 393720	A3	19920930		
EP 393720	B1	19950823		
R: DE, GB				
JP 03039949	A2	19910220	JP 1989-290563	1989 1108
JP 2632056	B2	19970716		

US 5134055

A

19920728

US 1990-512221

1990
0420

PRIORITY APPLN. INFO.:

JP 1989-102395

A

1989
0421

JP 1989-290563

A

1989
1108

OTHER SOURCE(S): MARPAT 114:217975

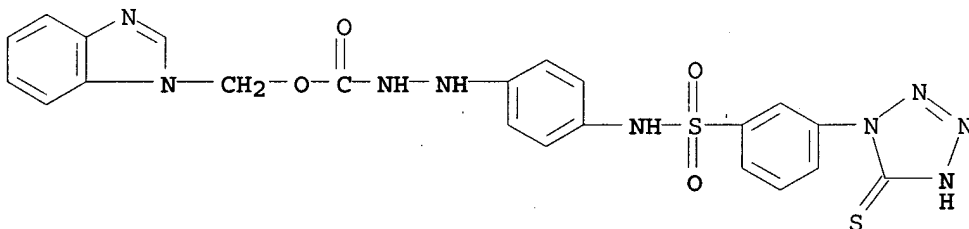
AB A Ag halide photog. material contains ≥ 1 compound represented by the general formula $RYNHLNHNHCO(Time)t$ PUG (R = an aliphatic, aromatic, or heterocyclic group; L, Time = a divalent group; t = 0 or 1; PUG = a photog. useful group; Y = S = Oz, ZSO₂, ZPOZR; Z = O, NH, or NR) and optionally ≥ 1 hydrazine derivative represented by the general formula $R_1R_2NNR_3Z_1R_4$ (R₁ = an aliphatic or aromatic group; R₂, R₃ = H, acyl, alkylsulfonyl, or arylsulfonyl with R₂ R₃ = H; R₄ = H, alkyl, aryl, alkoxy, aryloxy, amino, carbamoyl, or oxycarbonyl; Z₁ = CO, SO₂, SO, COCO, POR₄, thiocarbonyl, or iminomethylene). The photog. material thus described has high-resolution and broad exposure latitude in line image-taking work and may excellently reproduce a line original to form an ultrahard image having a gamma value ≥ 10 .

IT 132773-86-5

(silver halide photog. emulsions containing, for lithog.)

RN 132773-86-5 HCAPLUS

CN Hydrazinecarboxylic acid, 2-[4-[[[3-(2,5-dihydro-5-thioxo-1H-tetrazol-1-yl)phenyl]sulfonyl]amino]phenyl]-, (nitro-1H-benzimidazol-1-yl)methyl ester (9CI) (CA INDEX NAME)

D1-NO₂

IC ICM G03C001-06

ICA G03C008-08; G03C008-40

CC 74-2 (Radiation Chemistry, Photochemistry, and
Photographic and Other Reprographic Processes)

IT 132773-86-5 132773-87-6 132773-88-7 132801-46-8
132877-36-2 132877-37-3 132877-38-4 132877-39-5
132877-40-8 132877-41-9 132877-42-0 132877-43-1
132877-44-2 132877-45-3 132877-46-4 132877-47-5
132877-48-6 132877-49-7 133832-21-0

(silver halide photog. emulsions containing, for lithog.)

L24 ANSWER 45 OF 48 HCAPLUS COPYRIGHT 2006 ACS on STN

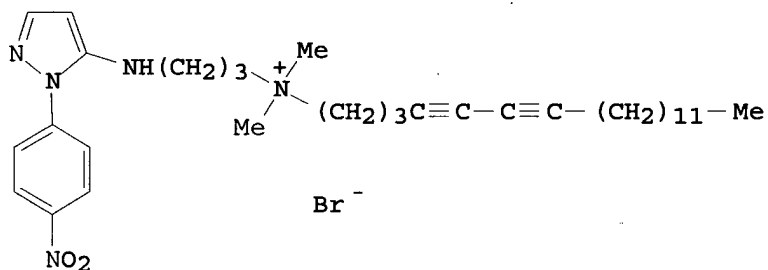
ACCESSION NUMBER: 1989:415474 HCAPLUS

USHA SHRESTHA EIC 1700 REM 4B28

DOCUMENT NUMBER: 111:15474
 TITLE: Formation of nonlinear optical patterns
 INVENTOR(S): Okazaki, Masaki; Kubodera, Seiichi
 PATENT ASSIGNEE(S): Fuji Photo Film Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	---	-----	-----	
JP 63237038	A2	19881003	JP 1987-72183	1987 0326
PRIORITY APPLN. INFO.:			JP 1987-72183	1987 0326

GI



AB The title patterns are formed on substrates, e.g., in the preparation of optical elements for communication devices, etc., by coating with amphipathic materials, MLA [M = hydrophobic groups containing polymerizable monomer units; L = hydrophilic groups; A = residue of (nitro- and other group-substituted) benzimidazole, imidazole, or indole derivs.], exposing to high energy radiation through a patterned mask, and developing. Compound I, deposited as built-up Langmuir-Blodgett films (400 layer) on a quartz waveguide support, was irradiated with far-UV through a mask, and developed with a 1:4 CHCl₃-hexane mixture to prepare a 1-μm nonlinear optical pattern layer.

IT 121092-75-9
 (Langmuir-Blodgett films, radiation-curable, nonlinear optical patterns from)

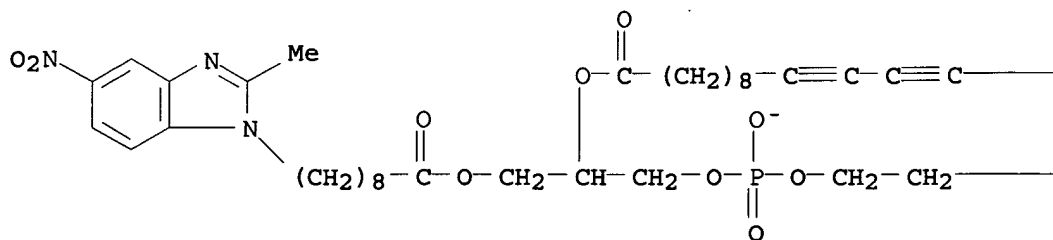
RN 121092-75-9 HCAPLUS

CN 3,5,8-Trioxa-4-phosphanonacosa-18,20-diyn-1-aminium,
 4-hydroxy-N,N,N-trimethyl-7-[[[9-(2-methyl-5-nitro-1H-benzimidazol-1-yl)-1-oxononyl]oxy]methyl]-9-oxo-, inner salt, 4-oxide,
 homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 121092-74-8
CMF C46 H73 N4 O10 P

PAGE 1-A



PAGE 1-B

— (CH₂)₇-Me— N⁺Me₃

IC ICM G02F001-35
ICS C08F018-12; C08F020-20; C08F020-36; C08F020-38; C08F026-02;
C08F030-02; C08F246-00; C08L101-00; G02B006-12
CC 74-13 (Radiation Chemistry, Photochemistry, and
Photographic and Other Reprographic Processes)
Section cross-reference(s): 38, 73
IT 121092-61-3 121092-63-5 121092-65-7 121092-67-9
121092-69-1 121092-71-5 121092-73-7 **121092-75-9**
121092-77-1 121092-79-3
(Langmuir-Blodgett films, radiation-curable, nonlinear optical
patterns from)

L24 ANSWER 46 OF 48 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1989:85382 HCAPLUS
DOCUMENT NUMBER: 110:85382
TITLE: Electrophotographic photoreceptor containing
charge-transporting benzimidazole derivative
INVENTOR(S): Shiino, Yasuko; Matsumoto, Masakazu
PATENT ASSIGNEE(S): Canon K. K., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 13 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 63157157	A2	19880630	JP 1986-303856	1986 1222

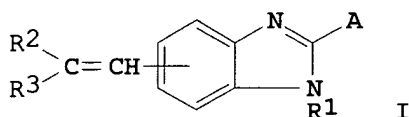
PRIORITY APPLN. INFO.:

JP 1986-303856

1986

1222

GI



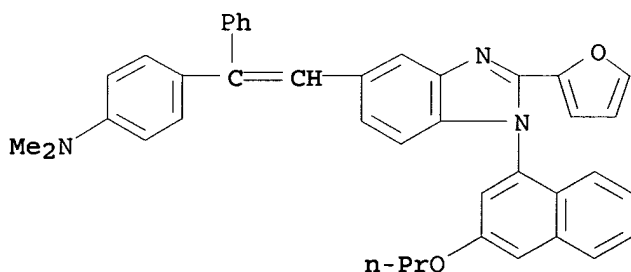
AB The title photoreceptor has a photosensitive layer containing a benzimidazole derivative I (R1 = alkyl, aryl, heterocyclyl; R2, R3 = H, R1, aralkyl; R2, R3, and the central C may form a ring residue; A = aralkyl, R1).

IT 119028-30-7

(electrophotog. charge-transporting agent)

RN 119028-30-7 HCAPLUS

CN Benzenamine, 4-[2-[2-(2-furanyl)-1-(3-propoxy-1-naphthalenyl)-1H-benzimidazol-5-yl]-1-phenylethenyl]-N,N-dimethyl- (9CI) (CA INDEX NAME)



IC ICM G03G005-06

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT 119028-13-6 119028-14-7 119028-26-1 119028-27-2
 119028-28-3 119028-29-4 119028-30-7 119028-31-8
 119028-32-9 119028-33-0 119028-34-1 119028-35-2
 119028-36-3 119028-37-4 119028-38-5 119028-39-6
 119045-81-7

(electrophotog. charge-transporting agent)

L24 ANSWER 47 OF 48 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1984:69842 HCAPLUS

DOCUMENT NUMBER: 100:69842

TITLE: Arylamination of aminohalogenoanthraquinones

AUTHOR(S): Philip, George; Nabar, U. T.; Kanetkar, V. R.; Sunthankar, S. V.

CORPORATE SOURCE: Dep. Chem. Technol., Univ. Bombay, Bombay, 400 019, India

SOURCE: Indian Journal of Chemistry, Section B: Organic Chemistry Including Medicinal

Chemistry (1983), 22B(8), 808-11
CODEN: IJSBDB; ISSN: 0376-4699

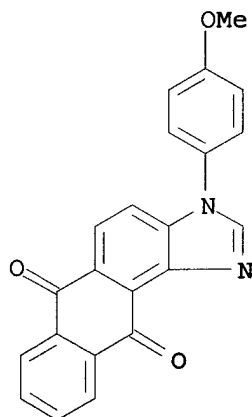
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 100:69842

AB 1-Amino-4-(arylamino)anthraquinones were prepared in high yields by reacting 1-amino-4-chloroanthraquinone [2872-47-1] 1, arylamine 6, and anhydrous $AlCl_3$ 5 mol in $PhNO_2$ at room temperature 1-Amino-2-bromoanthraquinone, 2-amino-1-chloroanthraquinone, 1-benzamido-4-chloroanthraquinone, and 1-amino-5-chloroanthraquinone failed to give arylaminated products. 1-Amino-2,4-dibromoanthraquinone [81-49-2] gave only 4-arylamined compds. whereas 1-amino-8-chloroanthraquinone [117-09-9] gave 2-arylamined derivs. A mechanism for the reaction was suggested. The arylaminated compds were applied on polyester as disperse dyes and their dyeing properties evaluated.

IT 88653-29-6P
(preparation of)

RN 88653-29-6 HCAPLUS

CN 3H-Anthra[1,2-d]imidazole-6,11-dione, 3-(4-methoxyphenyl)- (9CI)
(CA INDEX NAME)



CC 41-4 (Dyes, Organic Pigments, Fluorescent Brighteners, and Photographic Sensitizers)
Section cross-reference(s): 25

IT 1564-71-2P 60683-36-5P 88653-16-1P 88653-19-4P 88653-20-7P
88653-23-0P 88653-26-3P 88653-28-5P 88653-29-6P
(preparation of)

L24 ANSWER 48 OF 48 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1972:571214 HCAPLUS

DOCUMENT NUMBER: 77:171214

TITLE: Stabilized silver halide photographic emulsions

INVENTOR(S): Gauss, Walter; Mueller-Bardoff, Wolfgang; Von Koenig, Anita; Moll, Franz; Saleck, Wilhelm

PATENT ASSIGNEE(S): Agfa-Gevaert A.-G.

SOURCE: Ger. Offen., 33 pp.
CODEN: GWXXBX

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 2

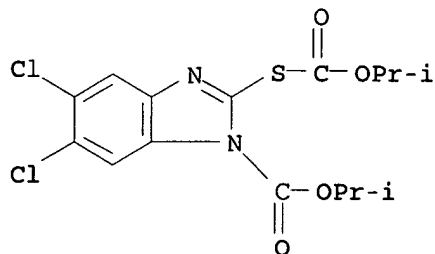
PATENT INFORMATION:

PATENT NO. -----	KIND ----	DATE -----	APPLICATION NO. -----	DATE
DE 2042533	A	19720302	DE 1970-2042533	1970 0827
DE 2042533	B2	19810122		
DE 2042533	C3	19811001		
GB 1340544	A	19731212	GB 1971-38481	1971 0817
CA 979709	A1	19751216	CA 1971-120711	1971 0817
BE 771731	A1	19720225	BE 1971-3341	1971 0825
US 3761278	A	19730925	US 1971-174930	1971 0825
CH 571233	A	19751231	CH 1971-12536	1971 0826
FR 2106153	A5	19720428	FR 1971-31203	1971 0827
FR 2107076	A5	19720505	FR 1971-31204	1971 0827
JP 55009695	B4	19800311	JP 1971-65241	1971 0827
PRIORITY APPLN. INFO.:			DE 1970-2042533	A 1970 0827
			DE 1971-2130031	A 1971 0618

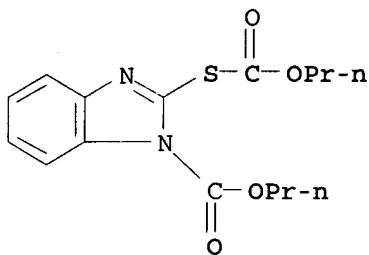
AB Stabilizers whose -SH group is liberated by hydrolysis during development only, and which therefore exert a min. depression on sensitivity and cause formation of smaller Ag grains due to gradual decreasing of the development are composed of heterocyclic compds. (benzimidazoles, imidazoles, purines, pyrimidines, triazoles, tetrazoles, etc.) containing N-C1-6 alkylcarbonyl or N-arylcarbonyl and 2-thio or 2-alkylcarbonylthio substituents. The stabilizer is added at 1-50 mg per mole Ag halide in an organic solvent solution prior to the ripening of the emulsion and, to improve the effect, a tetra-or pentaazaindene is added after the ripening. Thus, after 7 min development of a high-speed AgBr emulsion (with 6% AgI) the fog was reduced from 0.35 to 0.19 by 5 mg 2-ethoxycarbonylthio-1,4,5-triphenylimidazole and to 0.1 if 200 mg of 4-hydroxy-6-methyl-1,3,3a,7-tetrazaindene was also added per kg of emulsion ready to coat.

IT 38586-33-3 38815-64-4 38815-65-5
38815-66-6
(photog. stabilizer)

RN 38586-33-3 HCAPLUS
 CN 1H-Benzimidazole-1-carboxylic acid, 5,6-dichloro-2-[[1-methylethoxy)carbonyl]thio]-, 1-methylethyl ester (9CI) (CA INDEX NAME)

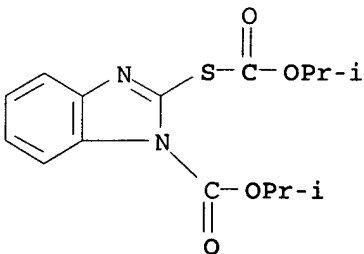


RN 38815-64-4 HCAPLUS
 CN 1H-Benzimidazole-1-carboxylic acid, dichloro-2-[(propoxycarbonyl)thio]-, propyl ester (9CI) (CA INDEX NAME)



2 (D1-Cl)

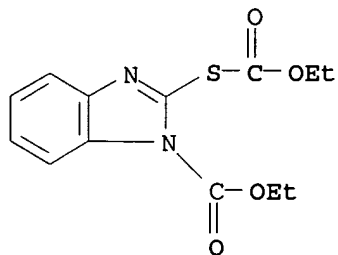
RN 38815-65-5 HCAPLUS
 CN 1H-Benzimidazole-1-carboxylic acid, dichloro-2-[[1-methylethoxy)carbonyl]thio]-, 1-methylethyl ester (9CI) (CA INDEX NAME)



2 (D1-Cl)

RN 38815-66-6 HCAPLUS
 CN 1H-Benzimidazole-1-carboxylic acid, dichloro-2-

[(ethoxycarbonyl)thio]-, ethyl ester (9CI) (CA INDEX NAME)



2 (D1-C1)

IC	G03C				
CC	74-2 (Radiation Chemistry, Photochemistry, and Photographic Processes)				
IT	2178-82-7	2178-83-8	2178-86-1	2178-90-7	2178-91-8
	2178-92-9	2178-93-0	2178-96-3	2178-97-4	2179-02-4
	2179-04-6	2233-08-1	21521-70-0	21521-73-3	38586-25-3
	38586-27-5	38586-29-7	38586-31-1	38586-32-2	
	38586-33-3	38586-34-4	38586-35-5	38586-36-6	
	38586-37-7	38586-38-8	38586-39-9	38593-83-8	38593-84-9
	38593-85-0	38593-87-2	38593-88-3	38593-89-4	38593-92-9
	38593-93-0	38593-94-1	38593-95-2	38593-96-3	38593-97-4
	38593-99-6	38594-02-4	38594-03-5	38594-06-8	38594-07-9
	38594-08-0	38594-10-4	38594-11-5	38594-12-6	38594-13-7
	38594-14-8	38594-16-0	38594-17-1	38666-65-8	
	38815-64-4	38815-65-5	38815-66-6		
	(photog. stabilizer)				